

OCTOBER 1917 ~ Nº 142

Monthly

A Reference for Buyers

HITCHCOCK'S  
**MACHINE  
TOOL LIST**

Distributed Free to Machine Tool  
Users Everywhere in the United States and to  
Dealers in American Machinery Abroad

Published by  
**A. H. HITCHCOCK**  
1220-1235 Caxton Building  
Chicago

# Millng, Boring, Grinding, Etc.

At Different Angles Without Resetting



## Universal Angle Plate—8"x10" Worm Adjusting

Here is a scientifically constructed device for holding work and adjusting it to every desired angle, which is so complete, handy and accurate that you cannot afford the use of makeshift rigs for this purpose.

It swivels on the graduated base through a complete circle and tilts to 90 degrees. The adjustment is easily made to any angle without disturbing the work bolted to the plate. With the Vernier attachment extreme accuracy is secured, to one-twelfth of one degree, for the finest work. The addition of centers to the platen permits the grinding of formed cutters.

Made in three sizes—4"x6", 6"x8" and 8"x10"—the large size with worm adjustment and the medium size either with or without worm adjustment.


*You will be glad to have it. Write for details.*

**Boston Scale & Machine Co.**

381-389 Congress St.,

Boston, Mass.

## Gridley Automatics } Turret Lathe Economy }



Both mean  
the same

Quick adaptability to varied kinds  
of work in the small shop.

Continuous output on long runs of  
a single kind in the big plant.

Easy setting of tool equipment and  
minimum attention afterward.

and in either case

{ Accuracy that  
is Permanent

Manufacturers, both large and  
small, have found that GRIDLEY  
AUTOMATIC TURRET  
LATHES are the logical ma-  
chines for their work. Why not  
yours? Capacities 2¼-3¼-4¼-5".

*Deliveries Now.*

### THE NATIONAL ACME COMPANY

GENERAL OFFICES  
CLEVELAND

Windsor, Vermont

CANADIAN SCREW PLANT  
MONTREAL, P. Q.

*Branch Offices:*

NEW YORK BOSTON CHICAGO DETROIT ATLANTA SAN FRANCISCO  
WAREHOUSES—NEW YORK, CHICAGO With FOREIGN REPRESENTATIVES

*Makers of Gridley Single and Multiple Spindle Auto-  
matics at Windsor, Vt., and Acme Automatics, Thread-  
ing Dies and Screw Machine Products at Cleveland, Ohio*

# Better

High Speed Tools at a Much

# Lower Cost

**Quality:** You can harden high speed tools and put 30% more production in them.

**Quantity:** You can *fill* an ordinary case-hardening pot with alternate layers of tools and our special compound, and harden the entire pot-full at one time—as much as a man usually does in a week.

**Certainty:** The process is fool-proof, and you *know* the tools will come out perfect; no pitting or distortion or cracking; no high speed scrap pile.

**Temperature:** Requires a temperature of only 1750 Fahr. instead of the terrific open fire heat of 2200 degrees heretofore employed.

**Equipment:** No special furnace or equipment needed.

**Economy:** Better tools; quantity production; no loss from failure; lower temperature; no special equipment; grinding of tools may be done *before* hardening.

**HE TZY**  
HEAT EASY

## High Speed Steel Hardening Compound Is What Does It

**Proof:** We can refer you to many of the best concerns in the country who are using HeTzy successfully, and we shall also be glad to send you a 100 lb. bag on 30 days' approval. If not thoroughly satisfied that it is all we claim, send back what is left at our expense. It is not expensive, and it can be used over and over.

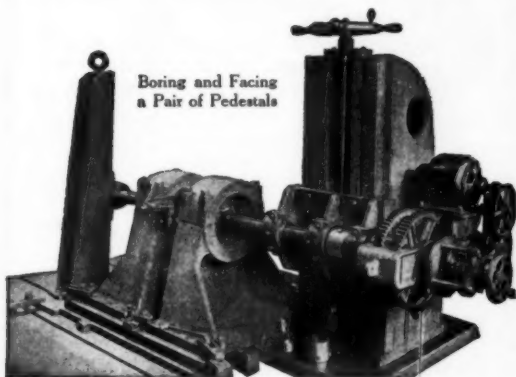
*If you are skeptical, put it up to us*

**Bennett Metal Treating Co.**  
Elmwood, Conn.



# Some Machines Have To Be Sold

But the Pedrick Column Boring Machine is selling itself



Boring and Facing  
a Pair of Pedestals

From the size of the illustration you may think the machine small, but it isn't. The column is a strong, husky casting over 5 ft. high, weighing 3000 lbs.

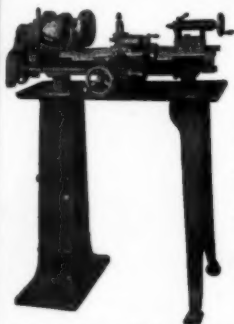
The simplicity, the power, and the wide boring range are features that have popularized this machine. The two movements of the boring bar (1) with bar traveling or (2) a cutterhead traveling along the bar are unusual and very adaptable.

*It will pay you to learn more of this new machine  
and we have a circular ready to send*

## Pedrick Tool & Machine Co.

3644 N. Lawrence St., Philadelphia, Pa.

Mfrs. Portable Boring Bars, Crank Pin Machines, Pipe  
Benders, Portable Millers, etc.



## Increase Production with a "DALTON SIX"

The "DALTON SIX" will not only increase production of small parts, but reduce the unit cost. Can be furnished with 30" or 36" bed, either two or three step cone pulley.

Furnished for either English or metric thread cutting.

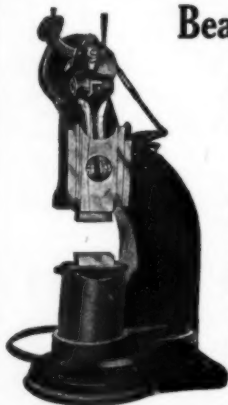
No manufacturer producing small parts can afford to be without a "DALTON SIX."

*Bulletin B-602 gives full specifications.*

**Dalton Manufacturing Corp.**

*Successors To*

**Dalton Machine Co., Inc.,** 1911 Park Ave.  
New York, U. S. A.



## Beaudry Hammers

**For General Forging**

**Saves Fuel, Time and Labor.**

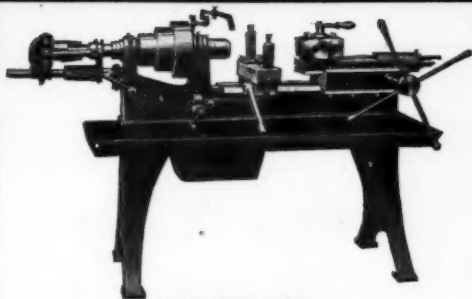
**Cuts Forging Costs in Two.**

*Belt or Motor Driven*

**Beaudry & Co., Inc.**

**141 Milk St., Boston, Mass.**

**SALES AGENTS —** Brown & Zortman Machinery Co., Pittsburgh, Pa.; Eccles & Smith Co., San Francisco, Los Angeles, Calif.; Portland, Ore.; Hallidie Machinery Co., Inc., Seattle, Wash.; Alfred Herbert, Ltd., Coventry, Eng.; London, Paris, Calcutta, Yokohama; C. T. Patterson & Co., Ltd., New Orleans, La.; Sherritt & Storer Co., Philadelphia, Pa.; The English Tool & Supply Co., Kansas City, Mo.; The E. L. Essley Mch. Co., Chicago, Ill.; Milwaukee, Wis.



**MODEL "D"**

## **Turret Lathes and Screw Machines**

**Now Ready for Delivery**

**Designed for Rapid Manufacturing of  
Parts Requiring Several Operations**

**MADE IN FOUR SIZES:**

- No. 2 {  $1\frac{1}{16}$ " Wire Feed Capacity, Plain Head  
          {  $1\frac{3}{8}$ " Hole Through Spindle.
- No. 3 {  $1\frac{5}{16}$ " Wire Feed Capacity, Plain Head  
          {  $1\frac{3}{8}$ " Hole Through Spindle.
- No. 4 {  $1\frac{3}{8}$ " Wire Feed Capacity, Geared Head  
          {  $2\frac{1}{2}$ " Hole Through Spindle.
- No. 5 {  $1\frac{7}{8}$ " Wire Feed Capacity, Geared Head  
          {  $2\frac{3}{4}$ " Hole Through Spindle.

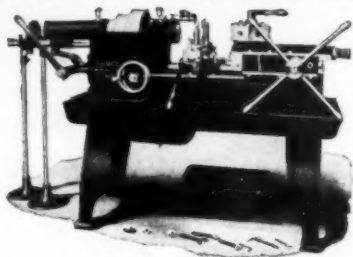
**With or Without Power Feed to Turret Slide.  
Mechanically Perfect and Fully Guaranteed.**

**Manufactured By**

**Smurr & Kamen Company**

**313 N. Whipple St., Chicago, Ill.**

## 1" Pierce Has Wide Range and Big Capacity

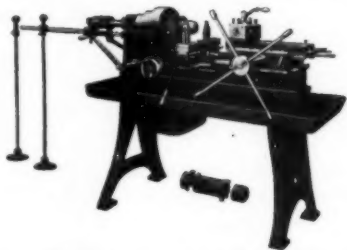


A Manufacturing Tool that's making records, not only in the variety of work handled, but also in output and economy. It has the diameter and turret travel of the big, expensive machines. Write today for folder.

### **Pierce Machine Tool Company**

617 W. Jackson Blvd., Chicago, Ill.

## Turret Lathes and Screw Machines

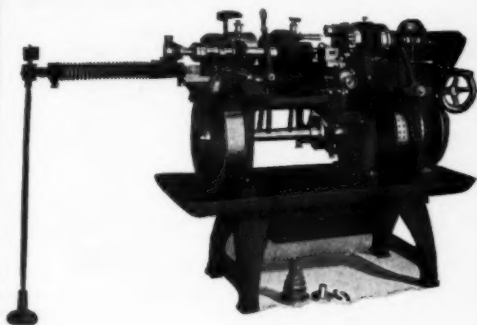


built and designed to give maximum permanent accuracy and efficiency. Reasonably priced.

### **Himoff Machine Co., Inc.**

45 Mills Street,

Astoria, Long Island, N. Y.



## Chicago Automatics

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No. 1      $\frac{3}{4}$  in. Capacity

No. 2      $1\frac{1}{4}$  in. Capacity

No. 4     2 in. Capacity

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For Sale By The  
**John Macnab Machinery Company**  
90 West St., New York City

# Monarch Lathes

give universal satisfaction to the user. They have been doing this for years, and this accounts for the ever increasing demand for **Monarch Lathes.** Built in four sizes and in all styles and with any attachments desired.

*Sold by a leading Machinery Dealer  
in every machinery center.*

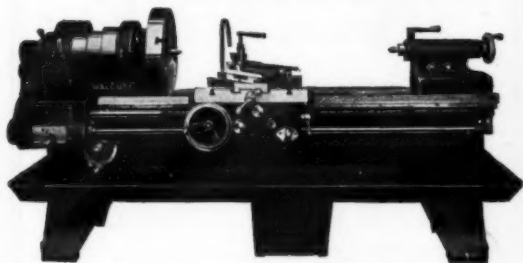


## The Monarch Machine Tool Co., Sidney, Ohio

14, 16, 18, 20, 26 and 28 Inch

# Walcott Lathes

For Tool Room and Factory



**Walcott 20" Lathe with Quick Change Gear Box, 3-Step Cone and Double Back Gear, Oil Pan and Pump**

Walcott Lathes are powerful, convenient, safe, and the very embodiment of accuracy.

They also contain many excellent features that are not found in other high-grade lathes.

Especial attention has been given to those parts which usually show the first wear in a lathe, with the result that we believe we have increased the wearing qualities of Walcotts over any other lathes made.

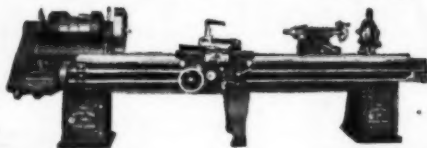
We furnish oil pan and pump equipment with all sizes; square tool post on saddle and hexagon tool post on saddle for all sizes; hand feed turret on bed of 14 and 16 inch lathes, and power feed on bed of the larger sizes.

*We invite your most careful investigation.  
What size do you need now? Let's get together.*

## Walcott Lathe Co.

## **Sidney—Sturdy and Accurate**

**In Three Sizes—15", 17" and 19" Swing**



Built for Heavy Duty, and modern to the last detail, these splendid tools give solid satisfaction wherever installed. They come single or double back gear, plain or quick change gear, and any length bed from 6 ft. up. Let us send description so you can study and compare.

**THE SIDNEY TOOL CO.,    SIDNEY, OHIO**

## **Cleveland 16" Quick-Change Lathes**



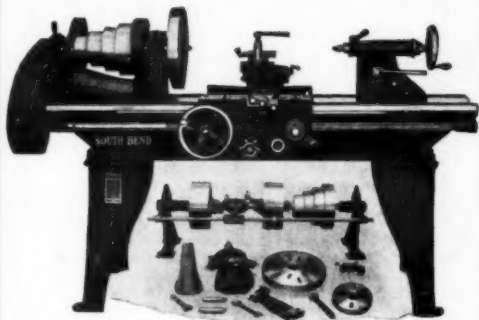
**3-Step Cone and  
Double Back Gears  
OF  
4-Step Cone and  
Single Back Gears**

A HEAVY, ACCURATE LATHE, which we guarantee to reduce 50-point carbon steel  $1\frac{3}{4}$ " at  $1/16$  feed. Quick-change gears cut from solid steel bar; have but two operating levers; large quadrant permits cutting any odd pitch or metric threads. Entirely high grade. Write for the complete description.

**The Cleveland Machinery & Supply Co.  
Cleveland, Ohio**



# South Bend Lathe



**16 in. x 6 ft. Screw Cutting Engine Lathe**

South Bend Lathes have been on the market eleven years. Dealers in every large city.

Swing Over Bed, Inches	Length of Bed, Feet	Dist. Btw. Centers, Inches	Hole Thru Spindle, Inches	Approx. Weight on Skids	Code	Price
13 $\frac{1}{4}$	5	32	$\frac{3}{8}$	1,000	Hasen	\$272
15 $\frac{1}{4}$	6	40	1 $\frac{1}{8}$	1,425	Jadin	352
16 $\frac{1}{4}$	6	36	1 $\frac{1}{8}$	1,700	Juddo	432
18 $\frac{1}{4}$	8	57	1 $\frac{1}{8}$	1,950	Kell	566
21 $\frac{1}{4}$	10	75	1 $\frac{1}{8}$	3,300	Penti	841
24 $\frac{1}{4}$	12	95	1 $\frac{1}{8}$	4,420	Polly	1,218

Made with straight or gap bed. Price includes all the equipment shown in illustration.

## GUARANTEE

**Write your own guarantee—We'll abide by it**

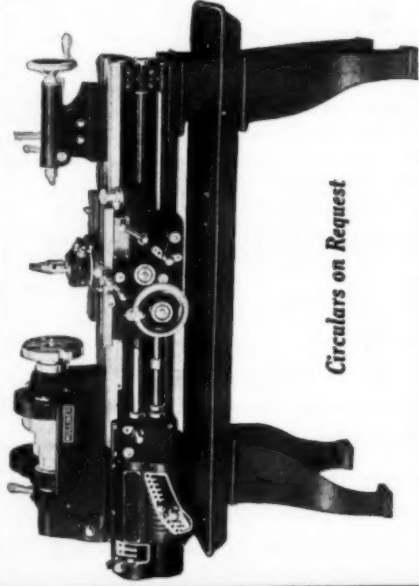
*Send for free Catalog illustrating and describing entire line.*

## South Bend Lathe Works

Established 1906

**South Bend, Ind.**

*East End*



*Circulars on Request*

# Guaranteed Accuracy!

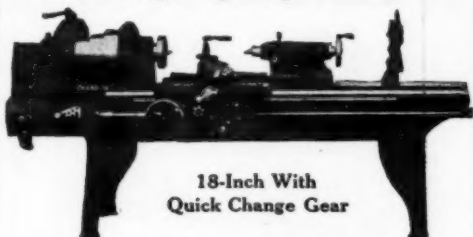
Mulliner Tool Room Lathes are guaranteed to bore and turn true to within .001" when properly set up.

Every Mulliner Lathe is tested to a standard which is way above ordinary requirements. Only the finest materials are used in construction.

MULLINER-ENLUND TOOL CO., Inc., Syracuse, N. Y.

# For Accurate, Heavy Work

## The Super-Quality "Chard"



**18-Inch With  
Quick Change Gear**

"Chard" Super-Quality Lathes are made in 16", 18", 20", 24" and 28", semi and quick change, with four-step back gear and three-step double back gear.

An instance of the exceptional care used to make the Chard Lathe right, is shown in our treatment of the spindle, which is forged down from a 6-in. billet. After forging it is thoroughly annealed, and after annealing it is reheated to 1525 to 1550 degrees Fahr. and quenched in water, then reannealed at 1225 to 1250 degrees.

The same care in every detail of construction enables the "Chard" to withstand the most severe strains of constant cutting and to handle very heavy work with ease, speed and accuracy.

*To know the "Chard" is to want it. Will you write?*

## **Chard Lathe Company**

**New Castle, Ind.**

### **DOMESTIC DISTRIBUTORS**

THE F. O. STALLMAN SUPPLY CO., San Francisco, Cal.  
VONNEGUT MACHINERY CO., Indianapolis, Ind.  
ENGLISH & MILLER MACHINERY CO., Detroit, Mich.  
OGDEN R. ADAMS, Rochester, N. Y.  
HILL, CLARKE & CO., Chicago, Ill.  
THE W. M. PATTISON SUPPLY CO., Cleveland, Ohio.  
J. S. MILLER MACHINERY CO., Pittsburgh, Pa.  
MONARCH MACHINERY CO., Philadelphia, Pa.  
PATTERSON TOOL & SUPPLY CO., Dayton, Ohio.

## A Powerful 26" Lathe

A. C. Motor Driven



Also 20", 32" & 36"

We have built into this lathe every known feature which makes for large production. It is heavy, powerful, convenient and accurate. May we tell you about it without obligating you?

**WICKES BROTHERS, Saginaw, Mich.**

## "FILSMITH" 13-Inch Engine Lathe

Embodies Several New Features



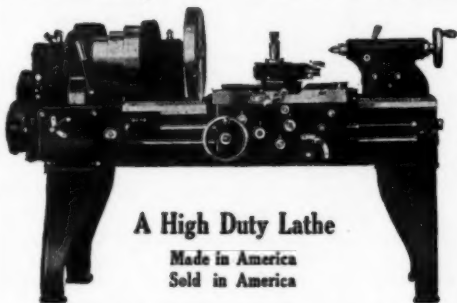
3-Step Cone  
Double Back Gears  
Strong for Its Weight

HIGH-GRADE, of new and attractive design, and with great power for the rated swing. Built by experienced workmen of the best materials, it is a sturdy tool fit for strenuous service.

*Full details and attractive price on request*

**PHILIP SMITH MFG. CO., SIDNEY, O.**

# "Economy" 18" D. B. G. Lathe



## A High Duty Lathe

Made in America  
Sold in America

We have not accepted a foreign order for "Economy" Lathes for over two years.

Why? Because we have such a good, honest, carefully-designed, well-built lathe that it pays us to install it now in the best plants in the U. S. A., where the intrinsic merit of the "Economy" will enable us to build up a permanent domestic demand. It is its own best advertisement.

Quantity production with jigs and special fixtures and unusually low overhead charges also enable us to make a very fair price for exceptional quality.

The "Economy" is just the kind of a lathe you will appreciate in your plant, and if you can anticipate your wants a little we shall be glad to figure with you. A new addition to our plant and increased facilities have hardly enabled us to keep pace with the demand.

*We invite the inquiry of a few more discriminating lathe users who can anticipate their needs*

**Rockford Lathe & Drill Co.**  
1827 Fourteenth Ave., Rockford, Ill.

## The Atlas 20" Engine Lathe



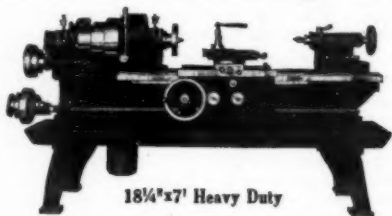
**Quick Change, Double Back Geared  
Made with 8, 10 and 12 ft. Beds**

We call it "Atlas," because like the Atlas of ancient lore, it stands up rigidly under the heaviest duty. It is as strong as we can build it and it takes heavy cuts with ease and accuracy.

*It is good clear through. May we send specifications?*

**The Taylor Machine Co.,** **Cleveland, Ohio**

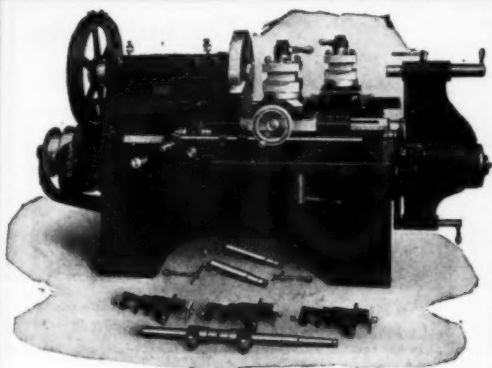
## Fulton Manufacturing Lathe



**18 1/4"x7' Heavy Duty**

Why invest your money in a full equipment of machines with needless attachments? At least 75% of the work in the average manufacturing plant is plain turning, boring and facing. The Fulton Heavy Duty Manufacturing Lathe is unexcelled for that purpose and it costs much less than any screw-cutting lathe of equal power. Isn't it worth looking into? Write to—

**Fulton Machine Tool Co.,** **1438 Bryan Pl., CHICAGO, ILL.**



BY USING  
**The Cincinnati High Duty Pulley Lathe**  
YOU CAN  
**More Than Double  
Your Pulley Production**

---

Every Feature Is A Time Saver, being particularly adapted to this class of work.

---

**You Get Double Tool Capacity** and a machine heavy enough to let you plow in.

---

When equipped with power cross feed on one side, three cuts can be taken at once on Gears, Fly Wheels and similar work.

---

**The Cincinnati Pulley Machinery Co.**  
CINCINNATI, OHIO



## Murchey Service Means Promptness

To maintain "Murchey Service" and to be able to ship Murchey Chasers promptly, in the face of a rapidly increasing demand, has taken a great deal of money, time and energy.

### Murchey Collapsing Taps and Self-Opening Dies

maintain their pre-eminence for the same reason—our determination to spare no pains

to give our customers the best there is in Threading Tools as well as in the service which insures their continuous operation. Isn't this a good time to try us out on both?

**Murchey Machine & Tool Co.,** 58 Porter Street  
Detroit, Mich.



## WHO

Ever Heard Of A  
Tap With Brains

?

### The "Double Gripp" Safety Tapping Chuck

knows enough to stop when the tap  
hits the bottom or gets in trouble.

Ask Your Dealer  
or Write Direct.

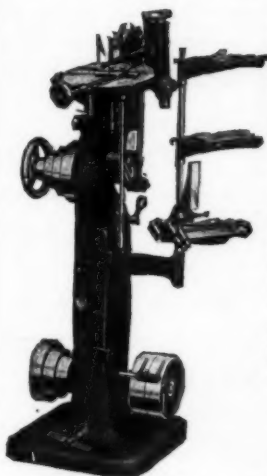
*They are sold on approval*

**William L. Procnier**  
549 Washington Blvd., Chicago, U. S. A.





## Cochrane-Bly Machines Insure Accurate, Low-Cost Filing



**No. 2 Filing Machine**

The Bench Filing Machine, shown on the right, is compact and convenient for light filing. Furnished with or without Upper File Support.

Accurate filing by hand is difficult for the expert; with the Cochrane-Bly No. 2 Filing Machine it is rapidly and perfectly accomplished at minimum cost.

Table is adjustable, also length of stroke, and there are four speeds.

The standard equipment includes arms for Hack Sawing and extension holders for Jig Saws.

This machine meets the most exacting tool room requirements where close finish is desired.



**Bench Filing Machine**

*Glad to mail you complete description*

## Cochrane-Bly Company

**Rochester, N. Y., U. S. A.**

Also Cold Saws and Automatic Cold Saw Sharpeners  
Universal Shapers for Die and Tool Work

# Abbott Steel Bearing Balls

High Grade—Highly Finished



We shall be glad to have your inquiries and make estimates

**The Abbott Ball Company**

Elmwood District, Hartford, Conn.



Style "C"



The Hinge



Style "Y"



Style "B"



Style "G"



Style "O"



Style "L"



Style "T"

## GITS OIL CUPS

Give perfect satisfaction where others fail. State style and size in which you are interested, and we will send free samples and catalog.

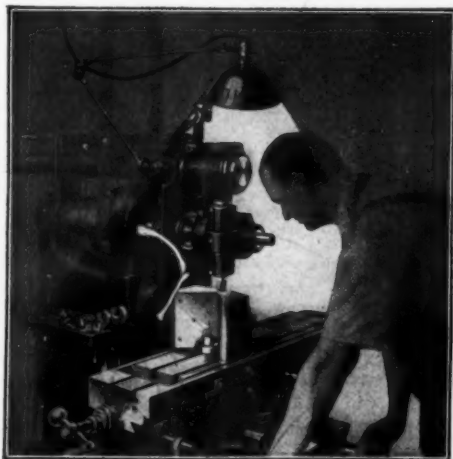
**GITS BROS. MFG. CO.**  
555-557 W. MONROE ST., CHICAGO



Style "H"

# SEARCHLIGHT

## Universal Lamp Brackets

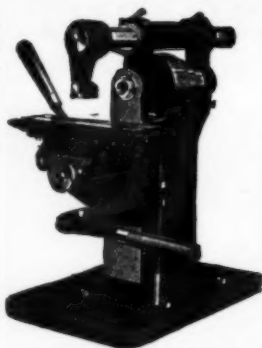


### Mean

**More Production  
Greater Accuracy  
Less Globe Breakage  
Fewer Accidents  
Time and Money Saved**

*Indispensable on every bench and machine.  
May we send a few on trial?*

**The McCrosky Reamer Co.**  
**Meadville, Pa.**



### **Burke's No. 3 Bench Millers Are Seasoned Tools**

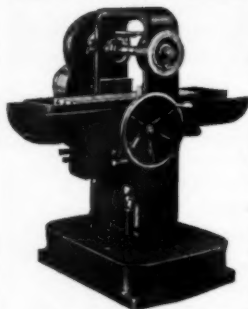
Our system of tests insures accuracy, and our methods of construction make it permanent. Frames and parts are carried 6 to 8 months, after work begins on them, before the completed tools receive our final O. K., and all parts are finished and fitted with exceptional care.

Longitudinal feed, 6 in.; traverse feed,  $3\frac{1}{2}$  in.; vertical motion of knee, 8 $\frac{1}{2}$  in.; table surface, 3 $\frac{1}{2}$ x12 inch.

*Write for Catalog, which also shows larger and smaller sizes.*

**The Burke Machine Tool Co.**  
Conneaut, Ohio

### **For Wider and Heavier Cuts**



### **Briggs High Duty Milling Machine**

takes the *full power* of a 3 $\frac{1}{2}$ -inch double belt without the least tendency to chatter. Note the one-piece solid frame—in fact the whole machine is designed for greater capacity in form and gang milling of steel parts for GUNS, automobiles, etc., etc.

*It's a real cost reducer. Let us tell you more.*

**GOOLEY & EDLUND, Inc., Cortland, N. Y.**



## Being Able to Produce

Quickly and accurately, are some of the many reasons for the steadily increased demands for our

### **SPECIAL CUTTERS**

SEND US BLUE PRINTS OR TEMPLETS  
FOR QUOTATIONS

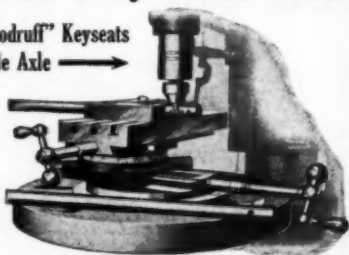
**The Cleveland Milling  
Machine Company**

18511 Euclid Ave. Cleveland, O.

## Mills On Any Drill Press

Cutting "Woodruff" Keyseats  
In Automobile Axle →

For the  
Garage  
Diemaker  
Repair Shop  
Patternmaker



The Davis Milling Attachment and Compound Table can be used on any drill press from 14 to 42-in. swing. It is equally valuable in big and small shops, as it does most of the lighter jobs as well as a large, expensive machine; cuts all kinds of keyseats perfectly. Our cylinder reamers for reboring the Ford car, and our efficient air compressor are also attractively priced. Send for circulars.

**Hinckley Machine Works, HINCKLEY, ILL.**

## This Bench Miller



Is well designed and well built and is a machine that will give you good and permanent service. Can furnish floor column if required.

*Send for circular*

**The Carter & Hakes Machine Co.**  
**West Winsted, Conn., U. S. A.**

AGENTS—for New England and New York, Hill, Clarke & Co.  
WESTERN AGENTS—Marshall & Huschart Machinery Co.,  
Chicago, St. Louis, Indianapolis.

# ILLINOIS

## MILLING CUTTERS



**Illinois Milling Cutters ensure you genuine tool quality and service; efficiency made possible only by most exacting care in every step of their manufacture. Standard Tools in Stock. Write or wire for quotations.**

*If you are not receiving our Monthly Stock Sheet, write us and we will be glad to add your name to our mailing list.*

**ILLINOIS TOOL WORKS**

**CHICAGO, U. S. A.**

Mfrs. and Designers of Cutters, Hobs, Reamers.



Ready  
for  
Delivery

## Accurate Light Punch Press

FOR THE MANUFACTURE of novelties from sheet metal, including such operations as stamping, blanking, piercing, bending, forming, perforating, embossing, shearing and wire cutting. The No. 1 has exceptional strength for its size.

It is carefully adjusted to secure accurate working of the dies and to prevent shearing. Pendulum action of lever gives a stroke of maximum power without tiring the operator. Material and workmanship the best.

*Price is moderate. Your order can be filled promptly now—  
but don't depend on tomorrow.*

**E. O. PARTRIDGE, 2041-2049 W. Lake St., CHICAGO**

Also Bench, Column & Cabinet Grinders, Polishing Lathes, Bench Tapping Machines, Hollow Mills, Countershafts, Chuck Arbors and Saw Mandrels.

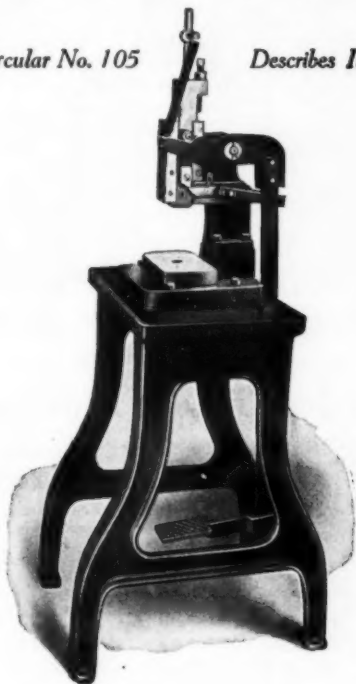


# Spring Foot Press No. 105

Uniformity of Blow    Vibrationless    Non-Fatiguing

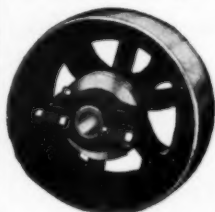
*Circular No. 105*

*Describes It*



**The Taylor & Fenn Company**  
Hartford, Conn.

## Heavy Duty Friction Clutches



### High Power

The large diameter of friction disc permits a full uniform grip around the pulley, insuring ample power and dependability under high speeds.

### Long Wear

They are simple, strong and compact, with nothing to cause trouble or require repairs.

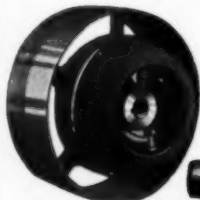
### Convenient

Oil them every second month without throwing off the belt.

*Investigate these better clutches for "goodness" sake*

**PASSMAN BROS.,** 30 S. Green Street  
CHICAGO, ILL.

## They Have Stood The Test Of Long Experience



**Enclosed Type, Self-Oiling**

### Edgemont Friction Clutches

Not only are right theoretically, but long, hard usage, under every conceivable condition of service, has proven them right practically. They have been tested to the limit and have "delivered the goods." They are extremely simple and very strong. They pull all that the belt will.

*Write for Catalog and names of prominent users*

**The Edgemont Machine Co.**  
Dayton, Ohio



## **S. & S. American Gage Standards**

represent the highest accuracy  
human skill can produce

They are manufactured in the United States by  
Experts of Life-Long Experience.

Blocks are finished on all sides. Measuring  
surfaces are absolutely flat, parallel and accurately  
standardized at 62° Fahr.

S. & S. Gage Standards are sold under a Guar-  
antee which protects you fully—a guarantee we can  
afford to make because we know they will fulfill  
every claim made for them.

*Most complete line made anywhere. Quick deliveries.*

*Write at once for full information.*

## **Schuchardt & Schutte**

**West Street Building,**

**New York**

Did you ever ask us to make those screw machine collets, with regular or irregular holes?

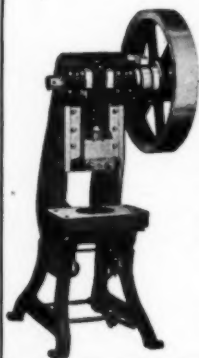
We are prepared to make good deliveries.

Why not try us next time?

Quantities never too small or too large to interest us.

**Hardinge Brothers, Inc.**  
Chicago, Ill.

## Here Is A Press



With Plenty of Steam  
Back of THE PUNCH

HIGH DUTY  
**ROCKFORD**  
PUNCH PRESSES

Made in straight side and inclinable types. Their great power backed by rigid design enable them to do the work you demand and stand up to it.

*Write For Catalog*

**Rockford Iron Works**  
Rockford, Ill.

A black and white photograph of a large, heavy-duty industrial machine, likely a press or stamping machine. The machine has a prominent horizontal handle on the left side, a large flywheel or pulley on the right, and a sturdy, rectangular base. The machine is shown from a side-on perspective, highlighting its robust construction and mechanical components.

**Send for Shear Catalog**

**Manufactured and For Sale By**

No. 0—	Shear (Tool Makers Bench Machine) Fitted with Buhings to Cut $\frac{1}{4}$ " & $\frac{3}{16}$ " Iron Rod and under,	$\frac{1}{16}$ " Flat Iron and under,	$\frac{1}{4}$ "	$\frac{3}{16}$ " Flat Iron and under,	$\frac{1}{4}$ "	$\frac{5}{16}$ "	$\frac{3}{4}$ "	$\frac{1}{2}$ "	$\frac{3}{8}$ "	$\frac{1}{4}$ "	$\frac{3}{16}$ "	$\frac{1}{8}$ "	$\frac{1}{16}$ "	$\frac{1}{32}$ "	$\frac{1}{64}$ "	$\frac{1}{128}$ "	$\frac{1}{256}$ "	$\frac{1}{512}$ "	$\frac{1}{1024}$ "	$\frac{1}{2048}$ "	$\frac{1}{4096}$ "	$\frac{1}{8192}$ "	$\frac{1}{16384}$ "	$\frac{1}{32768}$ "	$\frac{1}{65536}$ "	$\frac{1}{131072}$ "	$\frac{1}{262144}$ "	$\frac{1}{524288}$ "	$\frac{1}{1048576}$ "	$\frac{1}{2097152}$ "	$\frac{1}{4194304}$ "	$\frac{1}{8388608}$ "	$\frac{1}{16777216}$ "	$\frac{1}{33554432}$ "	$\frac{1}{67108864}$ "	$\frac{1}{134217728}$ "	$\frac{1}{268435456}$ "	$\frac{1}{536870912}$ "	$\frac{1}{1073741824}$ "	$\frac{1}{2147483648}$ "	$\frac{1}{4294967296}$ "	$\frac{1}{8589934592}$ "	$\frac{1}{17179869184}$ "	$\frac{1}{34359738368}$ "	$\frac{1}{68719476736}$ "	$\frac{1}{137438953472}$ "	$\frac{1}{274877906944}$ "	$\frac{1}{549755813888}$ "	$\frac{1}{1099511627776}$ "	$\frac{1}{2199023255552}$ "	$\frac{1}{4398046511104}$ "	$\frac{1}{8796093022208}$ "	$\frac{1}{17592186044416}$ "	$\frac{1}{35184372088832}$ "	$\frac{1}{70368744177664}$ "	$\frac{1}{140737488355328}$ "	$\frac{1}{281474976710656}$ "	$\frac{1}{562949953421312}$ "	$\frac{1}{1125899906842624}$ "	$\frac{1}{2251799813685248}$ "	$\frac{1}{4503599627370496}$ "	$\frac{1}{9007199254740992}$ "	$\frac{1}{18014398509481984}$ "	$\frac{1}{36028797018963968}$ "	$\frac{1}{72057594037927936}$ "	$\frac{1}{144115188075855872}$ "	$\frac{1}{288230376151711744}$ "	$\frac{1}{576460752303423488}$ "	$\frac{1}{1152921504606846976}$ "	$\frac{1}{2305843009213693952}$ "	$\frac{1}{4611686018427387904}$ "	$\frac{1}{9223372036854775808}$ "	$\frac{1}{18446744073709551616}$ "	$\frac{1}{36893488147419103232}$ "	$\frac{1}{73786976294838206464}$ "	$\frac{1}{147573952589676412928}$ "	$\frac{1}{295147905179352825856}$ "	$\frac{1}{590295810358705651712}$ "	$\frac{1}{1180591620717411303424}$ "	$\frac{1}{2361183241434822606848}$ "	$\frac{1}{4722366482869645213696}$ "	$\frac{1}{9444732965739290427392}$ "	$\frac{1}{18889465931478580854784}$ "	$\frac{1}{37778931862957161709568}$ "	$\frac{1}{75557863725914323419136}$ "	$\frac{1}{151115727451828646838272}$ "	$\frac{1}{302231454903657293676544}$ "	$\frac{1}{604462909807314587353088}$ "	$\frac{1}{1208925819614629174706176}$ "	$\frac{1}{2417851639229258349412352}$ "	$\frac{1}{4835703278458516698824704}$ "	$\frac{1}{9671406556917033397649408}$ "	$\frac{1}{19342813113834066795298816}$ "	$\frac{1}{38685626227668133590597632}$ "	$\frac{1}{77371252455336267181195264}$ "	$\frac{1}{154742504910672534362390528}$ "	$\frac{1}{309485009821345068724781056}$ "	$\frac{1}{618970019642690137449562112}$ "	$\frac{1}{1237940039285380274899124224}$ "	$\frac{1}{2475880078570760549798248448}$ "	$\frac{1}{4951760157141521099596496896}$ "	$\frac{1}{9903520314283042199192993792}$ "	$\frac{1}{19807040628566084398385987584}$ "	$\frac{1}{39614081257132168796771975168}$ "	$\frac{1}{79228162514264337593543950336}$ "	$\frac{1}{158456325028528675187087900672}$ "	$\frac{1}{316912650057057350374175801344}$ "	$\frac{1}{633825300114114700748351602688}$ "	$\frac{1}{1267650600228229401496703205376}$ "	$\frac{1}{2535301200456458802993406410752}$ "	$\frac{1}{5070602400912917605986812821504}$ "	$\frac{1}{10141204801825835211973625643008}$ "	$\frac{1}{20282409603651670423947251286016}$ "	$\frac{1}{40564819207303340847894502572032}$ "	$\frac{1}{81129638414606681695789005144064}$ "	$\frac{1}{162259276829213363391578010288128}$ "	$\frac{1}{324518553658426726783156020576256}$ "	$\frac{1}{649037107316853453566312041152512}$ "	$\frac{1}{1298074214633706907132624082305024}$ "	$\frac{1}{2596148429267413814265248164610048}$ "	$\frac{1}{5192296858534827628530496329220096}$ "	$\frac{1}{10384593717069655257060992658440192}$ "	$\frac{1}{20769187434139310514121985316880384}$ "	$\frac{1}{41538374868278621028243970633760768}$ "	$\frac{1}{83076749736557242056487941267521536}$ "	$\frac{1}{16615349947311448411297588253504$
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Shear blades have a draw-in cut with no tendency to crowd work out of shear. Pressure is directly over the cut by a rolling contact. Arm of movable blade is operated with a steel band. No springs on the machine.

## **"The Handiest Rack" Insures Economy In Bar Stock**



In handling bar stock the fullest economy is impossible without an accurate accounting right up to the minute.

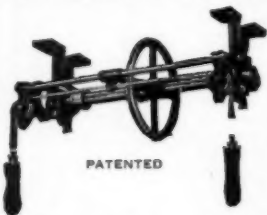
It is easy to keep several tons of this expensive stock properly assorted and counted when neatly piled on the inexpensive "Handiest Rack."

This alone is well worth its first and only cost, and it is so get-atable that it materially reduces the cost of handling in addition to saving 75% in storage space.

*Say the word and we'll  
ship on trial order*

**Wm. S. Yohe Supply Co.**  
232 Second St., S. E., Canton, Ohio

## **Countershaft for Grinder Work**



PATENTED

"DALTON" (Patented) Grinder Countershaft, is designed for use on small lathes of all makes, using either Internal or External Grinding Attachments.

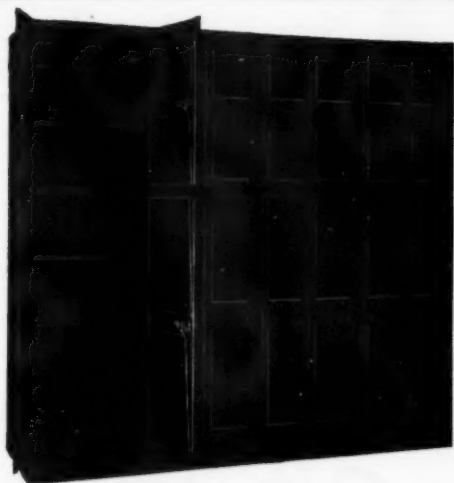
The Hangers are universal in adjustment for use upon either ceiling or wall.

Manufactured only by the makers of the "DALTON SIX" Lathe.

*Send for Bulletin*

**Dalton Manufacturing Corp.**

Successors To Dalton Machine Co., Inc.  
1911-15 Park Ave., NEW YORK, U. S. A.



## **Steel Bins and Shelving**

### **With or Without Fire Doors**

Our sectional units enable you to economize in your initial installment by ordering only for your present needs, then add to it or rearrange whenever desired. Fire doors can be attached at any time.

A further economy lies in the fact that the first cost is the only cost, and that there is a constant saving in floor space, fire risk, insurance and in the convenience of handling stock.

*Glad to figure on your needs without obligating you*

**Terrell's Equipment Company**  
**Hall & Division Sts., Grand Rapids, Mich.**

Also ask about Terrell's Unit System of Steel Lockers



## Stop Breaking Taps

Most tap breakage is the result of taps not running true. This is because the ordinary tap chuck does not adjust properly to variation in shanks, some of them having makeshift set-screws.

### "Wear-Ever" Tap Chucks

adapt themselves automatically to all shank variation, and the taps always run true. Result: tap breakage practically eliminated. Made of one piece; no screw adjustments; outlast all others; easy to use; save time; low priced.

*Glad to mail full particulars*

**Scully-Jones & Co.**

Room 555 Railway Exchange Bldg., CHICAGO



## Fenn's Tapping Machine

### Larger Output—Lower Cost

If a man increased his stride only one inch, without reducing the number of steps, he could walk quite a little farther in a day.

Likewise, Fenn's Friction Driven Tapping Machine, with both forward and reverse speeds under easy control, adds a little to the output at every turn, with an aggregate increase in production and reduction in cost that is well worth while.

*We invite investigation*

**Fenn Manufacturing Company**  
Hartford, Conn.

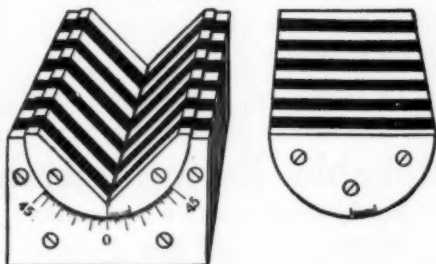
Cable Address "Fenn." West. Union Code  
W. L. Fenn W. A. Fenn  
(Formerly of the Taylor & Fenn Co.)



# How Efficient Is Your Magnetic Chuck?

## Buy A Set Of **RADNETICS**

—you'll find them the cheapest investment you ever made—and increase the chuck's field of usefulness infinitely.



This is the new

### **Radnetic Protractor Block**

which permits of instantaneous set-ups for grinding at any angle. No extra current required. 85% of the holding power retained.

*Write for descriptive Booklet*

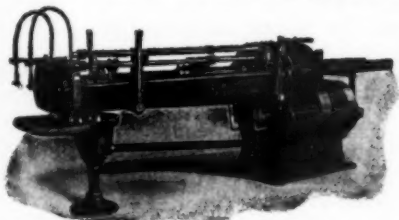
**LAWSON & COMPANY, Inc.**  
416 West 33rd Street

(Note new address)

Sole Distributors

KAR ENGINEERING CO., Manufacturer & Patentee  
**NEW YORK CITY**

## Broaching Machines And Broaching Tools



### Our Famous Double Machine

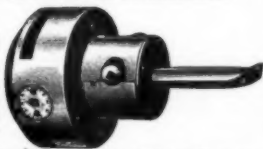
The Most Complete Line In The World. We make our machines in 5 sizes and 11 types. *Send for particulars.*

**THE J. N. LAPOINTE CO.,** - - New London, Conn.

## Reliable Boring Heads For Speedy, Accurate Production

### The Casler Offset Boring Head

Is a compact, rigid, handy tool for boring holes to size in jigs, tools, fixtures or any irregular shaped pieces, at a big saving in time.



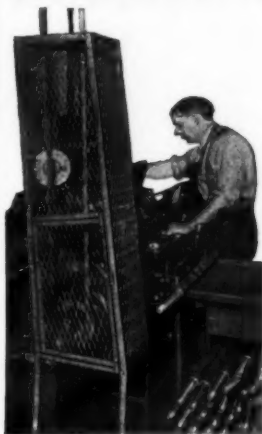
The head is attached to the threaded nose of the milling machine spindle, and the boring tool rotates in the boring head. The vertical and horizontal adjustments provided on the machine may be used to save time, and the Casler Offset Boring Head allows quick and accurate adjustment of the boring tool.

On account of its accuracy and large productive capacity, the Casler Offset Boring Head will save you money on your tools and fixtures. The sooner you order the more you will save.

*Catalog C explains fully its construction and uses*

**MARVIN & CASLER CO., Canastota, N. Y.**

# Protected Machines



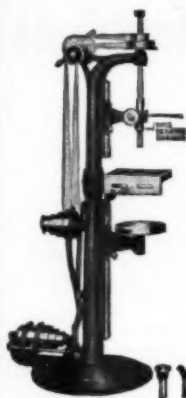
Make  
Contented  
and  
Efficient  
Workmen

Guards like this can be constructed in your own shop by your own workmen at a minimum of cost and labor. Let us send a free copy of our "Econo Expanded Metal Belt and Machine Guards."

**North Western Expanded Metal Co.**

931 Old Colony Bldg.,

Chicago, Ill.



*Look Here, Please!*

## **A Sensitive Drill With Six Spindle Speeds**

from 600 to 2,400, with ample power for  $\frac{1}{2}$ -inch drills and plenty of speed for the smallest drills.

*If your Dealer doesn't have them, write us*

**Francis Reed Co.**

43 Hammond St.  
Worcester, Mass.

## **32", 36" and 42" Upright Drills**

If you are looking for accurate, convenient, rugged drilling machines, that are built on strong, simple lines, ask us about—

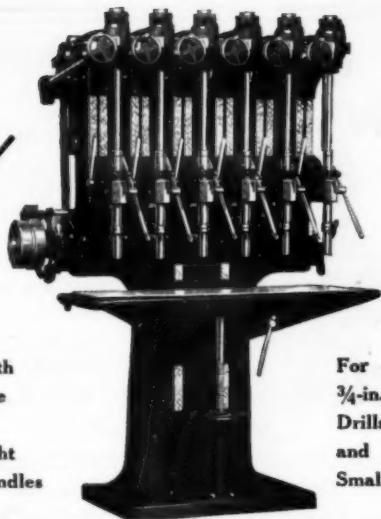
### **The "Cleveland"**

with positive geared feed, back gears and automatic stop. Patent geared tapping attachment and improved motor drive furnished if desired.

*You will like them  
Write for description*



**The Cleveland Machinery & Supply Co.**  
Cleveland, Ohio



With  
One  
to  
Eight  
Spindles

For  
 $\frac{3}{4}$ -in.  
Drills  
and  
Smaller

## They're Different

**And the Difference is all Improvement**

HENRY & WRIGHT Drilling Machines are different from other makes, for one thing, in their gearless power transmission with frictionless bearings. They consume the least power in transmission and deliver the greatest *drilling power*. Thorough tests of the drilling power of Henry & Wright's in some of the largest plants in the country have caused them to standardize on these superior machines—over 2,300 H. & W. spindles in one factory. And you have 252 varieties to select from.

*Full details and our Speed and Feed Chart Free*

**The Henry & Wright Mfg. Co.**

**760 Windsor St., Hartford, Conn.**

Foreign Agents: Allied Mchy. Co. of America, New York, N. Y.





## FEATURES

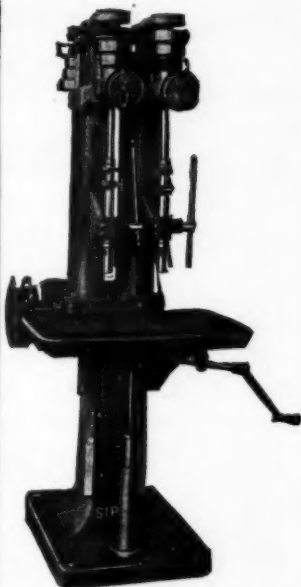
**Quick  
Change Speed**  
Change in 2 seconds

**Most  
Efficient Drive**  
No belt troubles

**Safety First**  
All parts protected

**Heaviest  
Drill Made**

**All Ball Bearings**



**What  
Users  
Say:**

The Standard Forgings Co., Indiana Harbor, Ind., say:

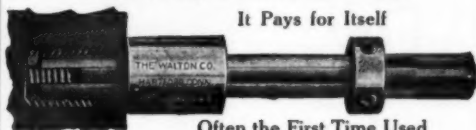
"We are pleased to advise the opinion of our shop foreman on the Sipp Drill, namely: 'Most efficient tool one could use on small work.'"

Write for Bulletin No. 4 telling why.

**The Sipp Machine Co.**  
**Keen Street, Paterson, N. J.**

# When a Tap Is Broken?

A Walton Tap Extractor of Course!



It Pays for Itself

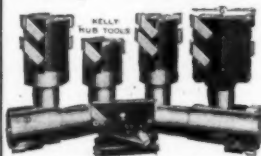
Often the First Time Used

When a taps breaks at or below the surface of the work it nearly always means a delay for the job in hand and quite a waste of some skilled mechanic's time. Do away with the delay and waste by using a Walton Extractor—the special crucible steel fingers do the trick quickly and easily.

*A 60-day free trial and folder for the asking*

**THE WALTON CO., Hartford, Conn.**

# Kelly PRODUCTION Tools



FOR PACKARD-CAST STEEL AUTO TRUCK WHEELS

For  
Cylinders,  
Crank Cases,  
Connecting  
Rods,  
Auto Parts,  
Etc.



We Make  
**DELIVERIES**  
in 1 to 10 days

They  
**"ADJUST"**  
Write for the Catalog G-H

**THE KELLY REAMER CO.**  
CLEVELAND, OHIO, U. S. A.

C. W. Burton, Griffiths & Co., London, English Agents.  
Burton Fils, Paris, French Agts. 40 Domestic Agencies.

**KELLY**  
**"Multiple"**  
**7**  
**Operations**



**Use-Em-Up and Standard Type**

# **Drill Sockets**



**Use-Em-Up Type**

**All Kinds  
All Sizes**



**Special  
Tools Made  
To Order**



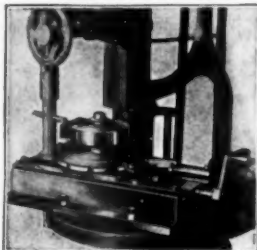
**Standard Type**

## **The Collis Company**

**Clinton, Iowa**

## **Index Boring Fixture**

**For Use On Any Drill Press**



This accurate and handy time-saver is adjustable from 6" to 16" center distance. It has interchangeable dial for indexing. Can be arranged to take different sizes of boring bars. Weight, 150lbs. Description and price gladly sent upon request.

We specialize in building machine parts for manufacturers—also assist in designing and developing.

*Your inquiry will have our most careful attention*

**Westchester Machine Co.**  
**Mount Vernon, N. Y.**

## **12 YEARS**

**In commercial use  
cutting good keyseats.**

*Get Catalog O for Details*

**National Machine Tool Co.**

**2268 Spring Grove Ave.,**

**Cincinnati, O.**





## Dwight Slate Marking Machines

Hand and Power  
In Several Styles

We also make  
a specialty of

## Die Cutting

For these machines

We Have

## Expert Engravers

*Write for the  
Marking Machine  
Catalog*

## An Improved Filing Machine

The filing machine above illustrated is strong, durable and thoroughly practical, and is recommended for its accuracy, convenience and productive capacity.

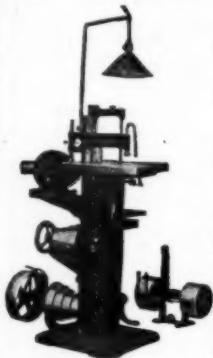
The head may be tilted to any degree, the stroke is adjustable from  $1\frac{1}{2}$  to  $2\frac{1}{2}$  inches, graduated head gives proper angle at a glance, and an adjustable chuck permits the use of standard straight files.

No filings can drop into working parts, which are above table. File breakage is reduced to a minimum. All bearings are phosphor bronze. In a word, it is of strictly modern design and construction throughout.

*Write for description, anyway—no obligation to buy*

**The Noble & Westbrook Mfg. Co.**  
Hartford, Conn., U. S. A.

## The Rearwin Die Filing Machine



Is the machine you want for production.

It has the pull of a 2" belt over a 12" friction pulley.

Uses hacksaws and special or standard files from 3 to 12" in length.

Has adjustable stroke  $\frac{1}{2}$  to 12", and makes good with both large and small work.

*Circulars are yours for the asking*

**W. D. Rearwin**

341 Mill Ave., Grand Rapids, Mich.

## "Rhodes" Shaper and Slotter

**Keeps Costs Down to Bed-Rock**

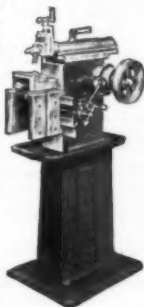
It's the Logical Machine to buy for such light work as dies, tools, models, etc., etc. The economy is obvious, for it embodies all the essentials of the larger, more expensive machines.

It is light running and easy to handle, and naturally has a larger capacity for light work than the heavier, more complicated tools. Built vertical, horizontal, and a combination of the two.

*They combine efficiency and economy. Send for full details*

**Rhodes Mfg. Co.**

Hartford, Conn.



**Safety—At a Small Outlay**  
**“New Britain” Stanchions**  
**For Guard Rails and Machine Guards**

“New Britain” Stanchions are built of gray iron, neatly finished, painted and ready for use. Their purpose is to permit the easy and economical construction of simple and effective means of protection against accidents.

**The “New Britain”  
Guard Rail Stanchion**

shown at the left, is used in the construction of guard rails for stairways, galleries, elevator shafts, areaways and platforms. It is drilled for 1¼-in. pipe and tapped for set screws.



**The “New Britain”  
Machine Guard Stanchion**

shown at the right, is used for constructing guards for gears, belts, and for any moving parts of machines which are dangerous when left exposed. It is drilled or ¾-in. rods, tapped and fitted with set screws.



Your workmen, with “New Britain” Stanchions and only a little ingenuity, can make your plant safer to work in, at a cost that is much less than its real value to you.

*Write for Bulletin No. 1223, which contains  
a number of valuable illustrated suggestions*

**The New Britain Machine Company**  
**“Shop Furniture  
Originators”**



**New Britain,  
Conn. U.S.A.**

## Sweetland Lathe Chucks



You have no time for chucking troubles. Use the dependable "Sweetlands," with their ready adaptability, great gripping power and permanent accuracy under pressure.

*All styles and sizes  
in Catalog 10-C*

**The Hoggson & Pettis Mfg. Co.**  
New Haven, Conn.

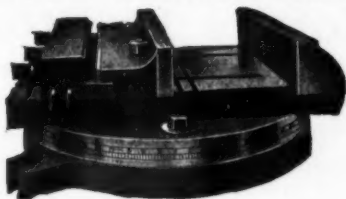


*We manufacture a great variety of*  
**Lathe Chucks, Drill Chucks, Centering Chucks**  
*Also*  
**Portable Jaws for Lathe face plates and Machine tables.**

*Let us send you our Catalog*

**The Cushman Chuck Co.**  
*Established 1862* *Hartford, Conn.*

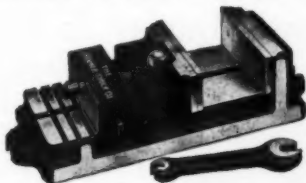
## Skinner Planer Chucks



We can make immediate delivery of Skinner Planer Chucks in all sizes, with round or square base.

They are heavy and powerful—the heaviest made; guaranteed not to spring under the severest service. The kind for railroad shops and steel mills, or wherever the requirements call for chucks of the very sturdiest character.

## Skinner Drill Press Vises



Widely known as the "Handy-tools." They are similar to our Planer Chucks, but more portable and convenient for use on a drill; adjustable for drilling at an angle.

*Write for No. 30 Catalog and Price List  
Just received from Printer*

## The Skinner Chuck Co.

**San Francisco Office:**  
Rialto Building.

**London Office:**  
149 Queen Victoria St.

**Factory and Main Office:**  
New Britain, Conn.

**New York Office:**  
94 Reade Street

# Over 400 Motors In Stock

Largest Stock New General Electric  
Motors in Middle West

**Sizes, 1 h. p. to 150 h. p.**

ALTERNATING CURRENT—25 and 60 Cycle,  
220 to 440 Volts.

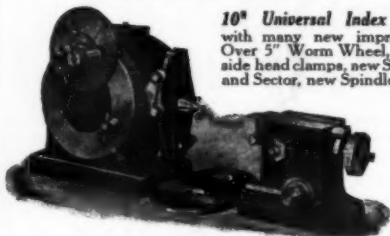
DIRECT CURRENT—115, 230, 550 Volts.

**Wire Inquiries**

*Write for Nagel Motor List No. 23—Just Out*

 **THE W.G. NAGEL ELECTRIC CO.**   
TOLEDO, OHIO

## Dickow's Quality Is Highest Accuracy Guaranteed



**10" Universal Index Centers,**  
with many new improvements.  
Over 5" Worm Wheel, new two-  
side head clamps, new Steel Crank  
and Sector, new Spindle Lock.

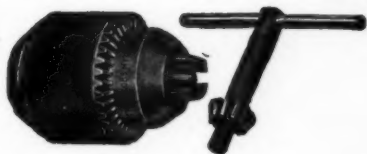
**Get the Original—Beware of Imitators**

*Sold by all dealers. Write today for particulars.*

**Fred. C. Dickow, 35 So. Desplaines St., Chicago, Ill.**



# JACOBS IMPROVED DRILL CHUCKS



## The Toothed Sleeve and Key

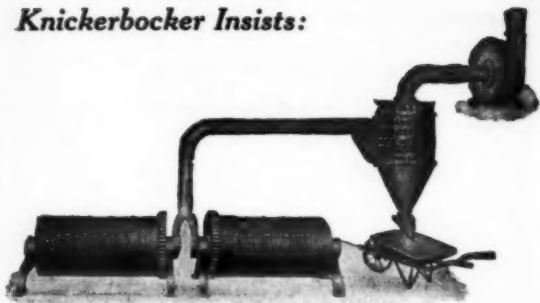
Have made the Jacobs Improved Drill Chucks popular with operators because it is so easy to set and release them. They satisfy the man higher up, who looks mainly at results, because they align drills accurately, without effort, hold them securely, and aid in getting a big output from the machines. More and more Jacobs Improved Drill Chucks are bought and used every year—indisputable evidence of superior merit.

*They Are Made By*

**The Jacobs Manufacturing Co.**

**Hartford, Conn., U. S. A.**

**Knickerbocker Insists:**



## Repeat Orders Tell The Story Of "Rarefied" Supremacy

"FIRMS OF NATIONAL and international reputation order and re-order 'Rarefied' Dust Collectors for their immense plants; at present the score is something like this:

Weston-Mott Co., Flint, Mich.	12
Westinghouse Elec. & Mfg. Co., Pittsburgh, Pa.	10
Willis-Overland Co., Toledo, Ohio	10
Oliver Chilled Plow Works, South Bend, Ind.	9
Pittsburgh Plate Glass Co., Pittsburgh, Pa.	9
General Electric Co., Schenectady, N. Y.	7
Fort Wayne Electric Works, Fort Wayne, Ind.	5
Sutton, Steele & Steele, Denver, Colo.	5
Buick Motor Co., Flint, Mich.	4



"They re-order, not because it's good looking, but because the 'Rarefied' is more efficient, more durable and the most economical of all Dust Collectors."

*Our Booklet gives "Reasons Why"*

**The Knickerbocker Co.**  
**Jackson, Mich.**

**Turning  
Threading  
Knurling  
Boring  
Cutting-Off**



All this work can be done on your lathe with

## **The Universal Turret Toolpost**

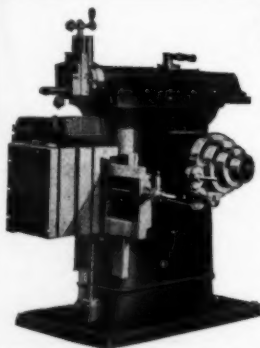
Increases the output of your lathes—eliminates tool changing—**FITS ANY LATHE**—tools furnished complete, are always accessible and ready for work.

*Prompt delivery — Write for particulars*

## **Magna Machine Company**

**Suite 481, 50 Church St., New York**

Also Builders of High Grade Special Machinery, Jigs, Tools, Gauges and Fixtures  
**Expert Pattern Makers**



## Shapers

The best medium priced Shaper on the market.

Built in 16", 18", and 24" sizes, all back geared crank machines.

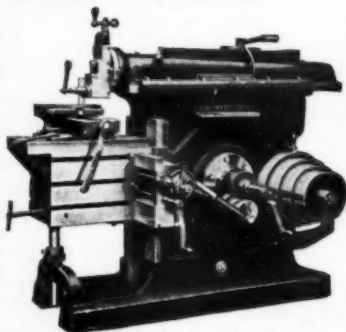
A few for early delivery.

**The Osborne & Sexton Mchy. Co.**  
Columbus, Ohio

## SHAPERS

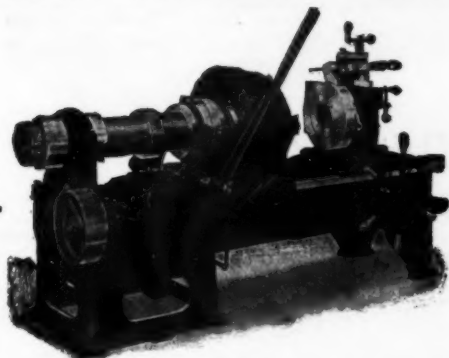
12", 14", 16"  
Plain Crank,  
16", 20", 25"  
B. G. Crank,  
either Cone  
Driven or  
through  
Speed Box.

24", 28", 32"  
Geared  
Shapers of  
the Belt Shift  
type.



**The Smith & Mills Co.** Station B.,  
Cincinnati, O., U.S.A.

## A Bignall & Keeler Pipe Threader Insures Rock-Bottom Economy

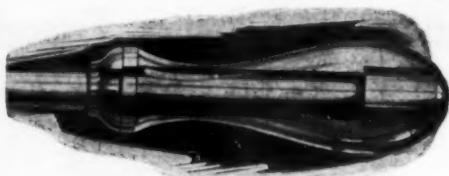


WE HAVE THE BEST and most elaborate machines for manufacturers who make a specialty of pipe threading, and we have moderate priced ones for such as do only a small amount of this work. The 17 styles and sizes handle any size from  $\frac{1}{4}$  in. to 18-in., and they all stand up perfectly in making up fittings, which is harder on a machine than the cutting of threads.

All B. & Ks. are fitted with the Peerless Quick Adjusting Mechanism—another factor to insure top-notch rapidity, accuracy and economy.

*We have an experience of 32 years to guide us.  
We invite you to consult with us freely.*

**Bignall & Keeler Machine Works**  
**Edwardsville, Ill.**



## Quick Action

This is what we call this new Machine Handle. Attached to any power tool, especially the heavier types; adjustments are made with more speed and less effort.

All kinds of standard and special Handles from steel for power tools and similar purposes.

*Send for Catalogue and prices.*

**The Cincinnati Ball Crank Co.**  
Oakley, Cincinnati, Ohio

## A Wonderful Combination

### In Riveting



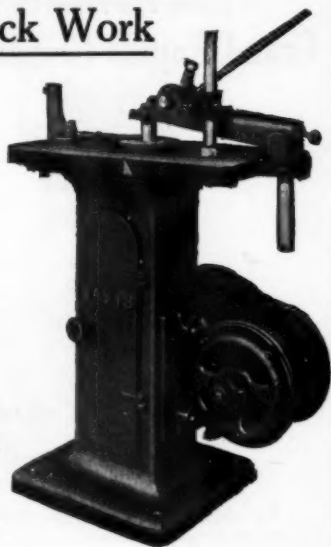
- Speed:** one rivet per second.
- Uniformity:** each rivet headed with same degree of tightness or looseness as desired.
- Finish:** perfectly formed rivet heads, highly polished surface, no hammer or tool marks shown.

**GRANT** Noiseless Rivet Spinning Machines, are the only machines built that will accomplish the above.

*Catalog ?*

**The Grant Mfg. & Machine Co.**  
C. E. Station, Bridgeport, Conn.

## Modern Methods for Quick Work



### **A DAVIS KEYSEATER**

Motor driven,  
will save you  
valuable space  
as well as in-  
crease your pro-  
duction. It is  
an investment  
you can't afford  
to overlook.

*Write for Circular*

**DAVIS MACHINE TOOL CO., Inc.**  
**ROCHESTER, N. Y., U. S. A.**

# **A New Product**

From The Plant Of The

## **Grand Rapids Grinder People**



An absolutely high grade Universal Grinder.  
Liberal size—widest possible range.

Any other machine at a cheaper first cost means  
the sacrifice of efficiency and loss of economy.

A larger and more expensive tool will never  
earn the extra price. In fact, probably will never  
earn a dollar of it.

*New Bulletin Now Ready*

### **Grand Rapids Grinding Machine Co.**

17 Ottawa Ave., N. W.

**Grand Rapids, Michigan, U. S. A.**



# Simple, Convenient Attachments

Are provided with the

*Greenfield*

Trade Mark Reg. U. S. Pat. Office

## Universal Grinder



Each Attachment is designed to serve a single purpose. This means that they are simple and without complicated adjustments to make them serve different purposes.

This makes it easy to change from one job to another and will save a lot of time. We have attachments for all kinds of tool sharpening and tool room grinding.

*You had better get our literature*

**Greenfield Machine Company**  
Greenfield, Mass., U. S. A.



When in the market for a machine for grinding flat, convex or concave surfaces, it will pay you to investigate the—

### **Bristol 12-in. Rotary Surface Grinder**

—on account of its great accuracy and all-around efficiency. If you will drop us a line, we shall be glad to furnish you with complete information and to freely answer any questions in reference to its application to your work.

*We invite your inquiry*

**The C. G. Garrigus Machine Company**  
Bristol, Conn., U. S. A.

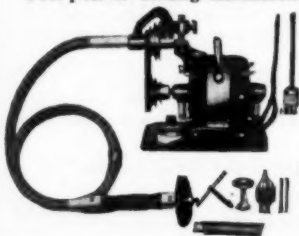
### **Strand Flexible Shaft Portable Grinder**

Made in four sizes: 1-10,  $\frac{1}{4}$ ,  $\frac{1}{2}$ , 1 H. P.

Adaptable for heavy or light grinding.

A universal portable flexible tool for every shop.

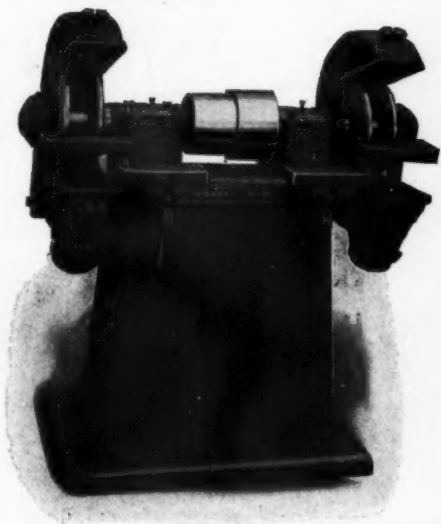
Tool post or drilling attachment and extra ball-bearing handle furnished also.



*Write  
for  
catalog  
today.*

**R. G. Haskins,**  
547 Washington Blvd.  
Chicago, Ill.

# **Grind it** *on a* **"Blount"**

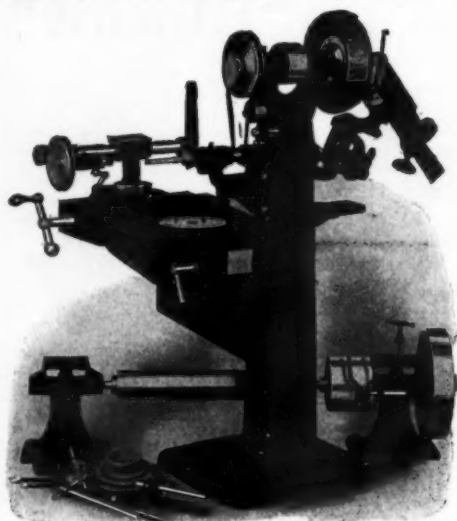


**No. 6½**

Our eight sizes meet all requirements of general grinding work. The large bearings insure accurate work under continuous heavy load.

**J. G. BLOUNT CO., Everett, Mass.**

**W. & M. Style BX**  
**Cutter, Reamer and Drill Grinder**



**CAPACITY:**

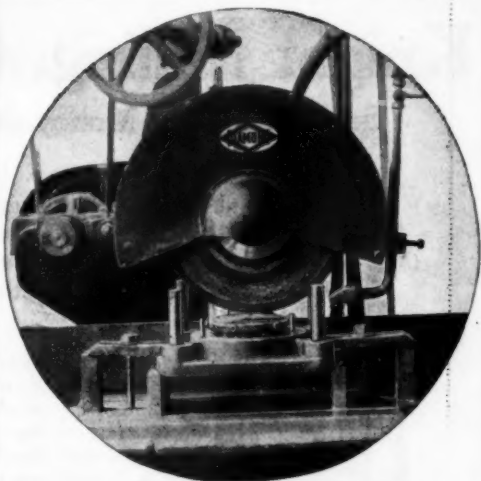
Face and Side Milling Cutters,.....	up to 12" Diam.
Angle and Plain Milling Cutters,.....	up to 8" Diam.
Gear Cutters and Hobbs,.....	up to 5½" Diam.
Reamers (Straight or Taper),.....	up to 17" Diam.
with Flutes not over 11½ in.	
Centers Swing Work, 7¼x17" - 11½" Movement.	

*Full Particulars on Request*

**Wilmarth & Morman Co.**

Makers of Drill—Surface—Universal Grinders

2185 Monroe Ave., N. W. Grand Rapids, Mich., U. S. A.



## Leave Your Die in Its Holder—

When grinding on the **Diamond Surface Grinder** it is not always necessary to remove the die.

Strap the holder with die on the table, or lay the unit on a magnetic chuck, and save the time previously consumed in removing and replacing the die from its holder. No fixtures needed. The ground face of the die is parallel with the base of the holder.

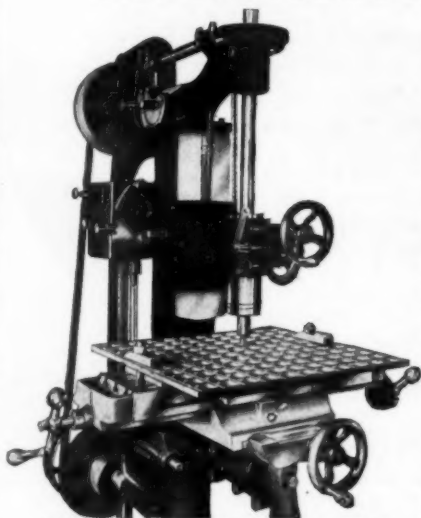
These are some of the many advantages of **Diamond** design worthy of your consideration. **Diamond** rigidity and care in manufacture assure the machine's well-known accuracy.

*Ask for our new Booklet D.*

**DIAMOND MACHINE CO., Providence, R. I.**

# Knight Milling and

Save Time and Money on a Wide



Machining a Mould in Brockton, Mass.

The card accuracy, unequalled for three of those setting.

The cut a convenience on one. It shows how worked out a machine, which the operator can work closely with position, and the screws, make the

The Knight machines are made of medium and heavy for saving the time for insuring, about chining of dies

patterns, etc., for the rapid duplication of many small other difficult and careful jobs which are constantly coming

*Glad to help you know them better. Your name*

## W. B. Knight Machinery

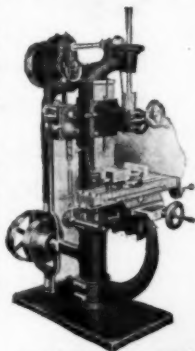
# Drilling Machines

## A Wide Range of Difficult Work

The cardinal features of the Knight Machines are accuracy, convenience and adaptability. They are used for drilling, boring or milling, or for any two or three of those operations, at any desired angle, at a single

The cut at the left illustrates their adaptability and convenience on one difficult piece of work requiring great accuracy. It shows how the Donnelly Machine Co., Brockton, Mass., has cut a mould on the Knight. The handiness with which the operator can use our vertical spindle, which allows him to watch the work closely while standing in his natural position, and the handy position of the lead screw make this a comparatively easy job.

The Knight Milling and Drilling Machine is made in three sizes, for light, medium and heavy work. They are invaluable for saving the time of high-priced labor, and for giving absolute accuracy in the making of dies, tools, jigs, moulds, metal parts, and for countless other things coming up in the average shop.



The Knight No. 2

Your name and address?

**Donnelly Co., St. Louis, Mo.**

**"WHITNEY"**  
**Key-Seat Cutters**  
For the Woodruff System of Keying  
**Get Our Prices**



Either Carbon or High Speed Steel.  
Material the Best Obtainable.  
Unsurpassed in Efficiency and Durability.  
Unsurpassed in Accuracy and Finish.  
Centered at Both Ends.

*Large Quantities Carried in Stock*

**The Whitney Mfg. Co.**

**Hartford, Conn.**

**Chains Keys and Cutters Hand Milling Machines**



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# Brown & Sharpe Cutters



## **Increased Production — Less Power Consumption with B & S Coarse Tooth Cutters**

—the result of their freer cutting action and their ability to stand up under heavy cuts at fast feeds and speeds.

We manufacture a standard line of cutters comprising 45 styles and over 5000 sizes. Special and formed cutters, singly and in gangs to your special order. The B & S trade mark is the symbol of

Correct design, high-grade materials, fine workmanship, scientific heat treatment and rigid inspection.

*Write for Catalog 27 TODAY*

**Brown & Sharpe Mfg. Co.**

Providence, R. I., U. S. A.

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Only Tap Wrench made that can be used in corners.  
It is sturdy, it is long lasting, efficient.



**PRICES:**

No. 1, Length over all 3", Cap: $\frac{1}{8}$ to $\frac{3}{16}$	\$2.00
No. 2, " " " 3 $\frac{1}{2}$ " " $\frac{1}{8}$ to $\frac{1}{4}$	2.00
No. 3, " " " 5 $\frac{1}{8}$ " " $\frac{3}{16}$ to $\frac{7}{16}$	2.50

**GUARANTEED.**

Price delivered Parcel Post, United States.

Let us have your orders.

**Alert Tool Company**

237 North 6th St.,

Philadelphia, Pa.

Use

*“Van Dorn”*

Portable  
Electric

**DRILLS and GRINDERS**

*For Steady Service*

Every working part of every “Van Dorn” Tool (except ball bearings) is made in the Van Dorn Plant.

Every part has been adapted to the purpose for which it is made and every part is made to carry 100% overload.

That's why “Van Dorn” Drills and Grinders give you a maximum of steady, satisfactory service.

We have a machine to suit your needs—write Dept. H for catalogs.

The *Van Dorn* Electric Tool Co.  
Cleveland, O.

**SALES OFFICES:**

New York, N. Y., 30 Church St.;  
Boston, Mass., 170 Purchase St.;  
Pittsburgh, Pa., 701 Empire Bldg.;  
Chicago, Ill., 601 Monadnock  
Bldg.; St. Paul, Minn., 1005 Ger-  
mania Life Bldg.; San Francisco,  
66 Eighth St.; Los Angeles, Cal.,  
1019 Wright & Collander Bldg.;  
Cincinnati, Ohio, 1102 Second  
Nat'l Bank Bldg.; Denver, Colo.,  
1633 Tremont St.; Milwaukee,  
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Lake City, Utah, 811 Walker  
Bank Bldg.; Chattanooga, Tenn.,  
Chattanooga Armature Works.



## Peter Bros. Metal Cutter

Makes a Smooth, Material Saving Cut  
The Best for Tool Room and Shop

NO MATTER whether it's high speed or other hardened steel, taps, drills, reamers, tees, brass or copper tubing, or a combination of metal and wood, this machine goes thru with a thin, clean cut. It saves valuable material, saves grinding, saves time, and doesn't draw the temper. It pays its own way.

**8" Size \$17.50, with C. S.**  
Splendid for tool room. Cuts high-speed steel up to  $\frac{1}{2}$ " square.

**12" Size \$50, with C. S.**  
Cuts up to  $2\frac{1}{2}$ " diameter, round or square, at any angle up to 45 degrees. Ball bearing.

**15 Days' Free Trial**

Write us or ask your dealer

**PETER BROTHERS MFG. CO.**  
115 Railroad St., Algonquin, Ill.



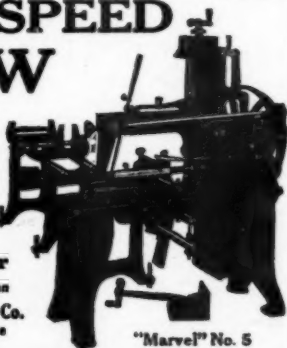
## AUTOMATIC HIGH SPEED SAW

Attention is invited to the "Marvel" No. 5. Cuts duplicate pieces faster and at less cost than any other method. Entirely automatic.

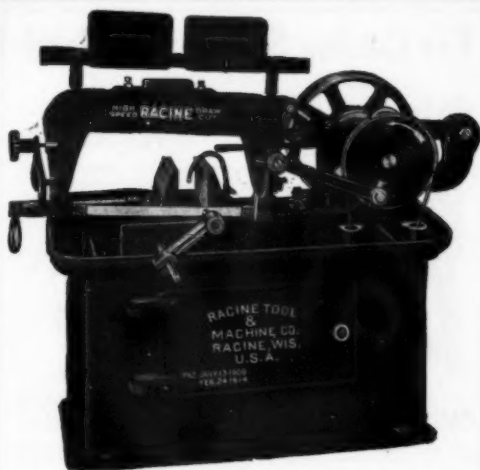
**Feeds the Bar**

Write for full information

**Armstrong-Blum Mfg. Co.**  
341 N. Francisco Avenue  
Chicago, Ill.



"Marvel" No. 5



## Racine High Speed Metal Cutting Machine

**Eats Steel—Standard the World Over**

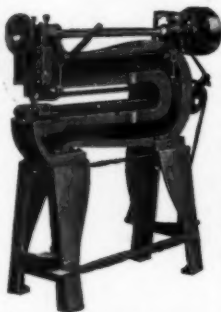
This is the only machine in the world that has an absolutely positive automatic lifting device. This feature of it is secured by patents. Its saw frame guide prevents springing. These two features combined lengthen the life of blades used on it.

Then there is the all important fact that RACINE machines minimize wastage of material, cut accurately and speedily, are easy and cheap to operate and increase production.

Investigate the particulars of our offer before buying any other shrapnel machine.

**Racine Tool & Machine Company**  
**Racine, Wisconsin, U. S. A.**

## For Cutting Sheets and Plates



### The New Gray Sheet Metal Cutter (Not a Rotary Shear)

Cuts intricate patterns to an exact line, far beyond the scope of any shear, in metal sheets and plates up to  $3/16$ " thick, at 20' to 30' a minute. Makes easy work of difficult and heretofore unwelcome jobs. It cuts a clean kerf and leaves smooth, uncrimped edges. Doesn't buckle stock. Makes clean angles and corners. Saves 90 per cent in labor cost and waste of material.

*Better look into it*

**W. J. SAVAGE CO., Knoxville, Tenn.**

## Quickwork Rotary Shears

**Never Fail to Decrease the Labor Costs from 25% to 50%;**

**Never Fail to Increase the Output;**

**Never Fail to Do Better Work.**

Cuts straight lines as well as any other Rotary Shear, and in addition will cut the most irregular, serpentine and zig-zagged lines across the sheet with one passage of the metal; or it will cut any shape or opening in a sheet without cutting in from the side.

Has three speeds; both cutters driven and the metal is self-feeding, and comes through with smooth straight edges. Send for new catalog.



**Twelve Sizes**  
Cutting any  
thing from  
the thinnest  
sheets to  $3/4$ "  
Steel  
Plates,

**THE QUICKWORK COMPANY**

Successor to H. Collier Smith, Detroit.

Detroit Office and Salesroom, 807-815 Scotten Avenue, Detroit, Mich.

Main Factory and Office  
St. Marys, Ohio.



## **"5 Times More Work from Blades 3 Cuts To 1"**

Just what a Forging Company reports after making a comparative test on Peerless High Speed Saw, cutting  $9\frac{1}{4}$  in. steel; test made on our 13x16 machine under equal conditions. We would be glad to furnish complete copy of this report and others; some of these tools may be working in your vicinity.

Here are facts that will substantiate this report. This firm has repeated their order from time to time; fourteen machines have been shipped them by express. The express charges on these shipments amounted to about \$450.00. At the same time they could secure from stock other makes and cheaper tools.

When a firm is urgently in need of a tool, but is willing to wait several days delivery for a certain make and go to such an enormous expense, when others could be had from stock, such evidence ought to influence your investigating the Peerless High Speed Saw before deciding on any other equipment.

From the reports and repeated orders received, it would indicate that this tool has revolutionized all metal cutting standards. We are, therefore, very anxious to install them on thirty or sixty days' free trial; this will allow you to thoroughly test and examine same before deciding to purchase.

**Peerless Machine Company**  
1609 Racine Street, RACINE, WISCONSIN



## Want Accurate Tapers? At Less Cost?

To remedy an inaccuracy, the first thing is to find it.

### Hartford Taper Gages

locate every taper inaccuracy at a glance, and they also enable the operator to determine in a moment when his tapers are right.

They are common-sense, simple, accurate, inexpensive measuring devices which should be in the hands of every workman who turns tapers, promoting accuracy and saving time.

*Description and price upon request.*

**Hartford Special Machinery Co.**  
285 Homestead Ave., Hartford, Conn.

**YOU Want Tool Holders that have MADE GOOD**

**Armstrong Tool Holders**

Were Awarded The

**Grand Prize**

The Highest Possible Award at the Panama-Pacific  
International Exposition—1915



*They Always Make Good*

**They Are Used in Most of the Big Machine Shops of the World**

*Send for Catalog*

**Armstrong Bros. Tool Co.**

"The Tool Holder People"

308 N. Francisco Ave., Chicago, U. S. A.





# Shipbuilders' Parallel Saw

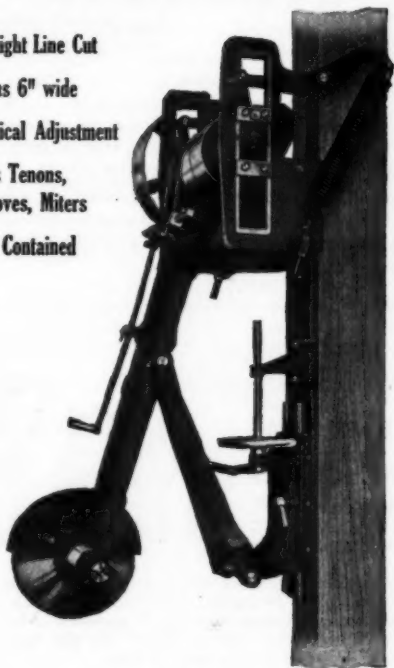
Straight Line Cut

Gains 6" wide

Vertical Adjustment

Cuts Tenons,  
Grooves, Miters

Self Contained



**P. Pryibil Machine Company**

*Established 1862*

**New York City, U. S. A.**

**14" Stud Lathes for Immediate Delivery.**

# Ball and Roller Bearings

## All Types

English (Inch) and Metric Dimensions

BALL THRUST  
ROLLER THRUST

ANNULAR (Ball Journal)

STEEL BALLS

JOURNAL ROLLER

TAPER ROLLER

PRESSED STEEL

Sole Distributors for the U. S. of

## The Bowden Patent Wire Mechanism

Adapted Throughout the World for CONTROLS on

AIRCRAFT

AUTOMOBILES

ELECTRIC SWITCHES

MOTOR BOATS

MOTOR CYCLES

MECHANICAL DEVICES

A Mechanical Device with Unlimited Possibilities

## THE G WILLIAM COMPANY

Engineers

MECHANICAL SPECIALTIES

253 W. 58th St. (at Broadway), New York, N. Y.

Branch Office: 1314 Arch St., Philadelphia

Vanderbeek

## Universal Ball Joints

Made in sizes  $\frac{3}{4}$ ", 1",  
 $1\frac{1}{4}$ ",  $1\frac{1}{2}$ ",  $1\frac{3}{4}$ " & 2".  
Special lengths on order



They are strong, compact and durable, and work perfectly up to an angle of 70 degrees. They have given many years of satisfactory service on thousands of machines. Made entirely of steel, with hardened balls. We also make the "Giant" Universal Joint for heavy shafting.

*Put your problems in angular drives up to us*

## Ainslie Machine & Tool Works

Successors to Vanderbeek Tool Works

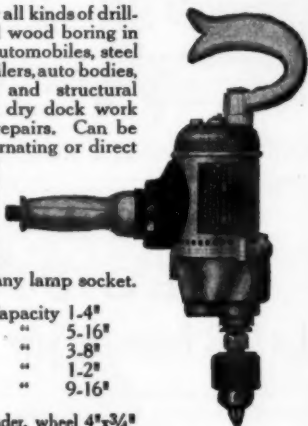
Hartford, Conn.

# Thor

## Universal Electric Drills

Licensed Under Burke Universal Motor Patent

Indispensable for all kinds of drilling, reaming and wood boring in the building of automobiles, steel and wood cars, boilers, auto bodies, and in railroad and structural shops, ship and dry dock work and machinery repairs. Can be operated on alternating or direct current, 110 to 250 volts. Furnished with cord and suitable feed attachment ready for immediate use. Attach to any lamp socket.



000	Drilling Capacity	1-4"
00	"	" 5-16"
0	"	" 3-8"
01	"	" 1-2"
1	"	" 9-16"

No. 6 Electric Grinder, wheel 4"x3/4"

*Shipped On Trial*

**Independent Pneumatic  
Tool Company**

Chicago    New York    Pittsburgh    Detroit  
San Francisco    Birmingham    Montreal

## The Call of the *Cantonments*

Booms the Demand for Canton Cranes



THE Army takes the men and you've got to get busy and see to it that somehow your business keeps going as usual. You're fortunate if you have much lifting and lugging to do, because one Canton Crane will do the work of 6 to 10 men—do it in perfect *safety*.

Your choice of many sizes. Booklet E-8 tells you all about them.

**CANTON FOUNDRY & MCH. CO., Canton, O.**

## ELECTRIC EUCLID HOISTS

Let OUR Engineers Save YOUR Time

It is possible that you realize the need of modern material handling equipment but cannot spare the time or men to work out the details.

Our engineers are constantly solving these difficulties and helping manufacturers reduce expenses.

Furthermore, this service is absolutely free.

Will you take advantage of it?

**The Euclid Crane & Hoist Co.**

**Dept. C**

**EUCLID, OHIO, U. S. A.**

# RELIANCE

## A New Motor Designed in a New Way

Before building our new line of Type T direct current motors, we went to thirty-five electrical engineers in the large steel mills and machine shops to find out just what they needed and wanted to meet the demands of their work. After that we built into Type T Motors the experience of these men who have had wonderful opportunities to learn the weak points in motors of every type and make.

Our new Bulletin 2014 tells the whole story with 39 illustrations.

### Reliance Electric & Engineering Company

1050 Ivanhoe Road  
Cleveland Ohio



# Pattern Shop Machinery

Special Prices if you refer to this ad.



## Band Saws

Chicago No. 00 27 in. Wheels  
" No. 0 32 " "  
" No. 1 36 " "



## Saw Tables

Chicago No. 5 Stationary Table  
" No. 9 Tilting Table  
" No. 10  
Boring attachment if wanted.



## Jointers

8 in., 5 and 6 ft. tables and guard.  
12, 16, 20, 24 and 30 in., 7 ft. tables  
and guard.

Trimmers, Lathes, Core Box Tools, etc.

Ask for full descriptions

## Chicago Machinery Exchange

1214-1228 Washington Boulevard, Chicago



## This is a machinery war---

Every minute, every useless move, every needless step, every dollar of capital saved in a machine-shop will help win the war by increasing production.

Nicholson Expanding Mandrels save from two to ten minutes on each operation, they save wasted motions and needless footsteps to the tool room.

As one set covers every size from  $\frac{1}{2}$  to 7 inches, they release for other purposes capital otherwise tied up in many sizes of solid mandrels.

W. H. NICHOLSON & CO.

117 Oregon St., Wilkes-Barre, Pa.

## NICHOLSON EXPANDING MANDREL

# Old Cutters Made New

Without Annealing or Altering Temper  
And We Pay Express One Way

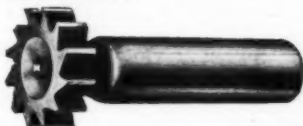
This side  
shows after  
recutting



This side  
shows before  
recutting

## 60% Off List for Milling Cutters

We recut Milling Cutters to the largest diameter by eighths, and to the greatest thickness by sixteenths of an inch, and mark them with your size. They are like new in finish, cutting quality and accuracy.

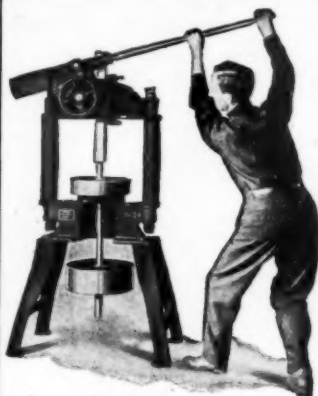


## 70% Off List on Woodruff Keyseat Cutters

We recut Woodruff Keyseat Cutters to the next smaller size, without annealing, so the shanks will remain standard.

Over 1,500 manufacturers are saving thousands of dollars annually through our service, and we want to save money for you. Send us a cutter you were going to scrap, or dig one out of the scrap pile, and let us return it to you as good as new. We guarantee all our work to give complete satisfaction.

**Peninsular Tool Salvage Co.**  
Detroit, Mich.



No. 24 Press

## Efficient Equipment Atlas Presses

for building and repairing automobiles and general machine shop operations requiring pressure up to 25 tons and centering capacity up to 38 inches.

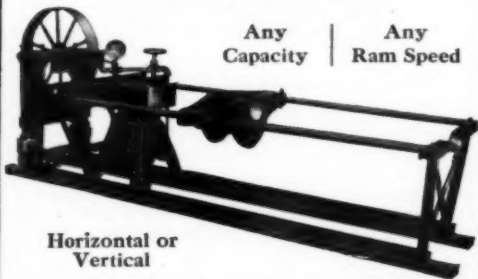
For driving mandrels; bending and straightening, broaching, embossing with dies, setting bushings and many other every day manufacturing jobs, there is an Atlas Press. All sizes for all purposes. *It will pay you to investigate.*

**Atlas Press Co.**

317 N. Park Street,  
Kalamazoo, Mich., U. S. A.

## Hydraulic Machines

Many Designs—For Many Purposes



Any  
Capacity

Any  
Ram Speed

Horizontal or  
Vertical

**Lourie Mfg. Co., Springfield, Ill.**



Cap.

20

Tons



Price

66<sup>00</sup>

Net

# WEAVER

## Forcing Press

WE ARE SPECIALIZING upon this one size and style of press. It is the ONLY press we make, therefore we are able to produce a better article at less money than were we compelled to carry the overhead necessary to produce a great variety of styles.

5-inch, 9-pound channel steel frame, 32-in. wide, 15-in. hand wheel, carried upon ball bearings. Bronze Thrust Bearings, Screw 2 in. in diameter with 3-pitch Acme thread. Range of movement, 12 in. The screw does not revolve.

Net Price (32-in. Width) \$66.00

**Weaver Manufacturing Co.**

2179 So. 9th Street,

Springfield, Illinois

## A Smash-up Is Bad Business

"Safety First" Belt Sticks Prevent—



your men getting hurt while putting belts on moving pulleys. Not only do they safeguard the man-power of your shop, but they obviate costly delays and the inevitable costly damage adjustments afterwards. Be safe with

### "Safety First" Belt Sticks

We make them in two sizes, 1 to 4-in. and 4 to 6-in., at one price, only \$1.25 ea. or \$12 a doz.

*Order NOW and PREVENT  
that costly smash-up*

**The Ready Tool Co.**  
Bridgeport, Conn.

## Manufacturers:—

Let me figure with you on your requirements. Send blue prints for estimates on:

**Tool Making,  
Stampings,  
Special Machinery,  
Machine Parts,  
Screw Machine Work.**

*First-class shop, expert workmen*

**R. G. Clyne Machine Works**  
Columbia Bldg., St. Louis, Mo.

**Of course we have stands for  
Greenerd Arbor Presses**

**But often a press may be mounted on a shop post  
that will save room and be "handy."**

*"Say so" and we will send catalog.*



*Yours for better methods*

**Edwin E. Bartlett, Nashua, N. H.**

**30,000 sq. feet shop area. Nothing but  
GREENERD ARBOR PRESSES**

## Want More Orders?

They are to be had for special contract work in machining, stamping, forging, casting, welding or any department of machine manufacturing. The problem is merely to bring the capacity and the demand for it together. If you have the idle capacity, and want work for it, the "Contract Work Wanted" department of the Tool List will help you to get in touch with machine-making plants everywhere in the United States. Its circulation among American metal working plants is country-wide. There is no other available means by which you can reach so many.

Don't let your equipment stand idle. That costs money—a lot more than it will cost you to find work for it. Write me for further information, and for a copy suggestion, which I shall be glad to make without cost or obligation.

**A. H. Hitchcock, Publisher**

**Hitchcock's Machine Tool List**  
1220-1235 Caxton Building, Chicago, Ill.

## Contract Work Wanted

This department is exclusively for the use of those desiring to secure contracts for anything in the line of foundry or machine work, including press work, dies, jigs, fixtures, gears, die castings, drop forgings, screw machine products, springs, bolts, nuts, rivets, etc. Advertisements are to be set with side headings as shown, and with such display as may be appropriate to the copy used. Rates: one-eighth page, per month, \$4.

<b>Gauges, Jigs Dies, Tools and Light Machinery</b>	<b>Model Tool &amp; Gauge Co.</b> <b>185 John St., Bridgeport, Conn.</b> Quick deliveries on gauges, jigs, dies and tools. Light machinery built on contract. Send us your specifications. We shall be pleased to quote.
<b>Dies, Tool General Machine Work</b>	<b>Chicago Die &amp; Machine Works</b> <b>415 N. Carpenter St., Chicago, Ill.</b> We are equipped to render satisfactory service on all kinds of general machine work. No job too big or too difficult. Established 1876.
<b>Sheet Metal Stamping Dies and Tools</b>	<b>Walter L. Schultz</b> <b>29 So. Clinton St., Chicago, Ill.</b> We solicit your inquiry for sheet metal stamping. Manufacturing a specialty.
<b>Heavy Deep Drawing and Stamping General Machine Shop Equipment</b>	<b>National Dairy Machine Co.</b> <b>Goshen, Indiana.</b> For immediate Service, a portion of our equipment on special parts requiring turret lathes, gear hobbors, screw machines, mill- ers, drawing presses; welding, retinning, enameling, sheet metal work, etc. Complete machine assemblies, contract or hourly basis. Send samples or blueprints for quotations.
<b>Dies Tools Special Machinery</b>	<b>Robbins, Gamwell &amp; Co.</b> <b>Pittsfield, Mass.</b> Accuracy and efficiency in gages, dies and special machinery, is our specialty.
<b>Sheet Metal Stamping</b>	<b>Frank B. Lothrop Co.</b> <b>South Acton, Mass.</b> <b>Blanking, Bending, Deep Drawing, Nickel Plating.</b>
<b>Want Orders for Die Casting?</b>	This is the place where you can offer your facilities to users of metal products everywhere in the United States. Many readers of the Tool List are in the market for die castings, and they would welcome information as to what you can do for them.

# CONTRACT WORK WANTED

<p><b>Complete Machines</b></p>	<p><b>The Challenge Machinery Co.</b> Grand Haven, Mich. Wanted, machine work—complete machines, such as punch presses, lathes, etc., 1,000 to 4,000 lbs. Modern factory equipment. Send blueprints for estimate.</p>
<p><b>I Want Something to Make</b></p>	<p><b>Ernest A. Begerow</b> 22 Lawrence St., Newark, N. J. I have a machine shop adapted to the economical production of duplicate work in which I am now making blanking tools, molds for composition and rubber molding, and parts for electrical and munition factories. I would like to produce any machine part or article of staple or special design that is wanted or can be marketed in quantities. Equipment can be modified or increased to meet requirements. Prefer something for which the demand will extend beyond the war. My costs are low and my ideas of profits reasonable. Your letter, sample or blue prints will have intelligent and prompt consideration.</p>
<p><b>Sheet Metal Stamping and Manufacturing</b></p>	<p><b>Batavia Specialty Co.</b> Batavia, N. Y. We solicit your inquiries for light sheet metal stamping and manufacturing of specialties.</p>
<p><b>Dies, Tools Automatic Dies and Sheet Metal Products</b></p>	<p><b>Nelson Tool Company, Inc.</b> No. 781 East 142nd Street, New York City We are well equipped to manufacture sheet metal articles made in automatic dies and machines.</p>
<p><b>Dies, Gauges Jigs and Fixtures</b></p>	<p><b>A. N. Van Deman</b> 95 William St., New York City Model and experimental work; special machinery built to order; contract manufacturing. Finished parts, of intricate shapes, accurately produced from electrolytic copper</p>
<p><b>Machine Work</b></p>	<p><b>The Knight Manufacturing Co.</b> 1510 Market Ave., S., Canton, Ohio Lathe, planer, milling machine, gear cutting and drill press work, on contract or hourly basis. Mail us your blue prints for estimates.</p>
<p><b>Work for Your Idle Equipment</b></p>	<p>You can get it, if you will let manufacturers know just what you can do. Tell them through this department. The cost is small; the distribution covers the metal manufacturing people everywhere in the United States.</p>

# CONTRACT WORK WANTED

**Brass and Bronze  
Castings and  
Bushings  
Rough or Finished**

**The Aetna Brass Mfg. Co.**  
**Cleveland, Ohio**  
**Two Large Plants**

**Dies, Tools  
Fixtures  
Special  
Machinery or  
Production**

**The Lieb & Allen Engineering Company**  
**821 So. 18th Street, Columbus, Ohio**

**IMMEDIATE SERVICE!**

Write us today—we need orders NOW! Can therefore give you quick deliveries. Let us quote prices and deliveries before you contract elsewhere. Why wait on others when you can get quick results here! Mail us your prints today!

**Drop  
Forgings  
(All Kinds)**

**Bonney Vise & Tool Works, Inc.**  
**Allentown, Pa.**

**Quick and Accurate Drop Forging and Finishing**

Good tools, good men, and good management insure precision and promptness. Investigate; when you know our facilities and our record you'll want our service.

**Pressed and  
Stamped  
Steel Parts**

**Geuder, Paeschke & Frey Co.**

**1325-1700 St. Paul Av., Milwaukee, Wis.**

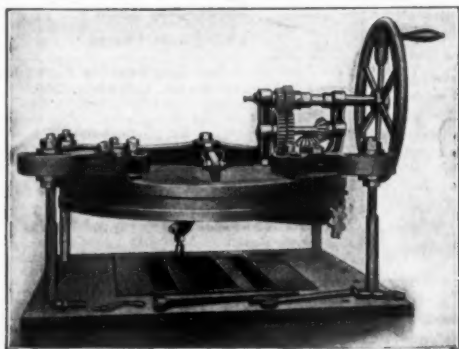
It will pay you to let us figure on such pressed, stamped or drawn metal articles or parts as you may require, be they made of steel, aluminum, brass or copper. Our 15-acre plant at your disposal. Get the benefit of our "Knowing how since '81." Send samples or blue prints for est.

## Greeting Cards

OUR SAMPLES of Christmas Greeting Cards (Personal or Business) showing a large assortment, will be mailed to you direct for your inspection. Place your order now for delivery later. This is the sure plan, to postpone may leave you without cards as it did a great many last season. Prices will also advance as the season advances.

**The American Embossing Co.,**  
**192-96 Seneca St.,** **Buffalo, N. Y.**

# Adapted To a Big Variety of Work



## Planes Any Surface Up To 42-in. (Diagonal Measurement)

**F**ACES OFF worn valve seats so smoothly and accurately that no filing or scraping is needed. Port edges are not broken, and the work is as good in every way as tho done in the shop. Besides locomotive valve seats, it is adapted to a large variety of other work. This Portable Rotary Planer shortens the shut-down by allowing bolts and parts to remain intact. One of the six sizes is sure to fit your work.

### The Underwood Line of Portable Tools Includes:

Millers; circular planer tools; radius planers; rotary planers; machines for truing eccentrics, facing domes, arms for facing cylinder flanges; rotary flue cleaners; armature and axle bearing borers; pipe benders; locomotive cylinder borers; boring bars for lathe work; crank pin turners; reflex water glass grinders; rail saws; motors, etc.

*We've been making 'em for nearly 50 years—send for our Catalog*

**H. B. Underwood & Company**  
1016-22 Buttonwood St., Philadelphia, Pa.



## Second-Hand Machinery.

Lists of Second-Hand Machinery, either for sale or wanted, set in uniform style, will be published under this heading at the rate of **50 cents a line**, across the page, each issue. Minimum charge, **\$4.00**. Sub-headings are counted as one line, but the name and address of advertiser are not included in the space charged for. No display in this department.

**Write directly to those offering the machines for sale for prices and full descriptions.** If what you require is not listed, use the blank enclosed to make known your wants to the publisher.

### WANTED BY

**South Bend Lathe Works,**

**South Bend, Ind.**

#### MILLING MACHINES.

We want to buy one or two second-hand Brown & Sharpe milling machines, No. 23 or 24 pattern. These are friction drive machines.

### FOR SALE BY

**C. M. Thompson Co.,**

**35 S. Clinton St., Chicago**

#### NEW MACHINES AND EQUIPMENT.

Grinding stands, Nos. 1, 2, 3 & 4.  
Independent chucks, 14" and 16".

Lathes, 14", 16" and 18" Champion  
Tool Works Co's lathes.

#### USED MACHINES.

Drill presses, 23, 24 and 28".  
Grinder, cylinder, No. 60 Heald.  
Grinder, surface, No. 2 Saxon.  
Grinder, universal, No. 3 Oesterlein.  
Keyseaters, Mitts & Merrill, fully  
equipped.

Lathes, 12", 14" and 24".  
Lathes, turret, 24" Jones & L.  
Planer, 36x36x13 New Haven, one  
head on rail.  
Screw machines, 8 & 12-16".  
And various other tools.

### FOR SALE BY

**J. L. Osgood,**

**45 Pearl St., Buffalo, N. Y.**

Chucking lathe, 21" P. & J.  
Chucking lathe, 24" Davis.  
Lathe, eng., 9" Barnes.  
Lathe, eng., 15"x6" Porter, and ck.  
Lathe, 17"x8" Blaisdell, and chuck.  
Lathe, 24" raised to 34", Fifield 12"  
bed, chuck.  
Piston and ring machine, Gridley  
automatic, motor drive.

Screw machine, hand, No. 1 Foster.  
Screw machine, hand, 3/4" B. & S.  
Screw machine, hand, 1" P. & W.  
hex. turret.  
Screw machines, No. 5 Warner & S.  
Spur gear testing mch., Gleason.  
Squaring shear, foot, 30" Niagara.  
Time recorder, International, 200  
numbers.

### FOR SALE BY

**W. L. Perkins, Jr.,**

**149 Broadway, New York**

Boring mill, 42" Niles car wheel.  
Lathe, 14"x6" Putnam, c. r., cross fd.  
Lathe, 18"x 8" LeBlond, c. r., cross fd.  
Lathe, 20"x 8" American, c. r., cr. fd.  
Lathe, 20"x 6" Blaisdell, c. r., cross fd.  
Lathe, 20"x 8" Blaisdell, c. r., cross fd.  
Lathe, 21"x 8" LeBlond, c. r., cross fd.  
Lathe, 26"x16", shell boring.  
Lathe, 40"x12" Fitchburg, c. r., cross fd.  
Lathe, 40"x18", shell boring.

Lathe, 80" Bement, dbl. hd., wheel.  
Miller, 24"x14" Bement, slab.  
Miller, 20" Sellers, vertical.  
Nut tapper, 1 1/2" six spd. Acme.  
Punch, No. 3 Long & A., spacing.  
Shaper, 12" Smith & Mills.  
Slotter, 24" Bement, all feeds.  
Turret lathe, 3 1/2" Warner & Swasey,  
hollow hexagon.  
Turret lathe, 33" Grant.

## SECOND-HAND MACHINERY

### FOR SALE BY

Stocker-Rumely-Wachs Co.,

117-121 N. Jefferson St., Chicago

Immediate Delivery.

#### DRILLING MACHINES.

- |  |                                 |
|--|---------------------------------|
| 20" Mechanics.                                 | 4' Mueller plain radial.        |
| 22" Sibley, s. h., b. g., p. f.                | 3-spindle Rockford.             |
| 30" Lodge & Davis, s. h., b. g., p. f.         | 4-spindle Rockford.             |
| 24" Gang plain radial.                         | 4-spindle Washburn, power feed. |
| 24" Hamilton plain radial, tapping attachment. | 4-spindle Allen.                |
|  | No. 11 Pratt & W., 10 spindles. |

#### GEAR CUTTERS.

- |                                 |                             |
|---------------------------------|-----------------------------|
| 24"x7 G. & E., spur gears.      | 36"x9" G. & E., spur gears. |
| No. 3, 26" B. & S., spur gears. | 36" Walcott, spur gears.    |
| 30"x9" G. & E., spur and bevel. |                             |

#### GRINDERS.

- |                                   |                              |
|-----------------------------------|------------------------------|
| No. 184 Wells, cutter and reamer. | No. 2 Landis universal.      |
| No. 1 B. & S. universal.          | No. 21 Landis plain.         |
| No. 2 Woods, tool & cutter.       | No. 1 Gardner disc grinder.  |
| Brainard cutter grinder.          | No. 24 Gardner disc grinder. |
| Leland universal, power feed.     | No. 6-A Diamond universal.   |

#### LATHES.

- |  |   |
|--|---|
| 10"x 4' Seneca Falls, c. r.            | 18"x 8' Lodge & S., pat. head, c. r., taper attachment. |
| 13"x 5' P. & W., taper attach.         | 18"x10' Fitchburg, c. r.                                |
| 14"x 6' Prentice, c. r.                | 20"x14' Blaisdell, c. r.                                |
| 14"x 6' Leblond, c. r., taper attach.  | 21"x12' New Haven, c. r.                                |
| 14"x 6' Rockford, c. r.                | 36"x20' American, t. b. g.                              |
| 15"x 6' Rockford Tool Co., c. r.       | 38"x16' Fifield, c. r.                                  |
| 16"x 8' Bradford, c. r.                |   |
| 18"x 8' Bradford, c. r., taper attach. |   |

#### PLANERS.

- |                                    |  |
|------------------------------------|--|
| 24"x24"x 4' Gray, one head.        | 36"x36"x14' Sellers, 1 head.                           |
| 24"x24"x 6' American, one head.    | 39"x39"x12' New Haven, one head.                       |
| 26"x26"x 8' Pease, one head.       | 50"x50"x18' New Haven, two heads, two extension heads. |
| 30"x30"x 8' Cincinnati, two heads. |  |
| 30"x30"x 8' Woodward & P., 1 hd.   |  |

#### SCREW MACHINES.

- No. 2 P. & W., friction head.  
 No. 2 Foster, plain head, a. c. & w. f.  
 No. 2 Bardons & Oliver, plain head, a. c. & w. f.  
 No. 4 Pearson, friction head, a. c. & w. f.  
 No. 5 Foster, geared friction head, auto. chuck, power feed to turret slide and power feed to cross slide.  
 No. 5 Foster, all geared head, auto. chuck and w. f., p. f. to turret slide.  
 24" Cleveland automatic.

#### TURRET LATHES.

- |                                   |   |
|-----------------------------------|---|
| No. 2 Foster-Kimball, plain head. | 2x24 J. & L., cone head.                            |
| No. 22 Garvin, plain head.        | 24" Gisholt, 4 1/2" spindle nose, taper attachment. |
| 16" Lodge & Davis, back geared.   |   |
| 16" Warner & Swasey, friction hd. |   |

#### PUNCHES AND PRESSES.

- No. 74 1/2 Bliss, stroke side, geared.  
 Blake & Johnson, embossing.  
 No. 3-A Lennox double end punch & shear.  
 No. 4 Long & Allstatter single end punch & shear, 4x1 1/2, 12" throat (new).  
 No. 4 Long & Allstatter sgl. end punch & shear, 1 1/2x1 1/2, 18" throat (new).  
 No. 4 Long & Allstatter sgl. end punch & shear, 1 1/2x1 1/2, 24" throat (new).

#### MISCELLANEOUS.

- |                                     |  |
|-------------------------------------|--|
| Cold saw, No. 3 Burr.               | Turret lathe, vert., 24" Bullard, turret head and one side head. |
| Keyseater, No. 60 Baker.            | Valve miller, 4-sp. Warner & S.                                  |
| Miller, vertical, No. 3 Cincinnati. |  |

## SECOND-HAND MACHINERY

### FOR SALE BY

Henry Prentiss & Company, Inc., - Singer Bldg., New York

Formerly

Prentiss Tool & Supply Company

### BORING MACHINES.

37" Niles vertical, 2 heads, | 53" Colburn vertical, 2 heads.

### DRILLING MACHINES.

24" Henry & Wright ball bearing, sensitive.  
4-spindle Woodward & Rogers.  
4-spindle Barr.  
5-spindle Reed.  
No. 25 Foote-Burt heavy duty.

28" Blaisdell, sliding head.  
42" Bickford plain radial.  
No. 37 Natco, 18 spindles.  
10 spindle Gardam adjustable.  
No. 4 Quint turret.

### GRINDERS.

No. 5 Rivett on stand.  
12x60 Landis universal.  
12x30 Landis plain.  
No. 2 Garvin hole grinder.  
6x32 Norton plain.

No. 6 Bryant internal.  
No 200 Heald, piston ring.  
No. 11 Rivett, oscillating.  
Greenfield universal cutter and tool.  
Pratt & Whitney, vertical surface.

### LATHES.

15"x8' Hamilton, plain rest, p. c. f., taper attachment.  
16"x8' Porter, compound rest, power cross feed.  
16"x 6' Automatic threading.  
18"x 6' Reed, compound rest, power cross feed.  
18"x8' Lodge & Shipley, 3 step, quick change, double back gear, (10).  
18"x 8' Rahn-Carpenter, compound rest, power cross feed.  
28"x14' Pond, compound rest.

18"x8' American, compound rest, quick change, taper attachment.  
20"x8' Lodge & Shipley, selective head, (5).  
18"x8' Lodge & Shipley, c. r., p. c. f., quick change.  
22"x10' Lodge & Shipley, selective head, (5).  
26"x14' Gleason, compound rest, power cross feed.  
36"x14' Pond, compound rest, power cross feed.

### MILLING MACHINES.

No. 12 Brown & Sharpe plain.  
No. 34 Garvin plain.  
Rivett swivel miller.  
No. 2 Garvin hand miller.  
No. 3 Garvin plain.

No. 13 Brainerd universal.  
No. 14 Brainerd universal.  
Grant manufacturing.  
No. 3 Reed plain.  
No. 2 Pratt & Whitney hand.

### PLANERS.

26"x26"x 6' Lodge & Davis.  
31"x31"x 8' Flather, 2 heads.

26"x26"x 8' Pond.  
36"x36"x14, Lodge & Davis, 2 hds.

### SCREW MACHINES.

1" Smurr & Kamen.  
14" No. 54 National Acme auto.  
20x7 F. & S. universal turret.  
15x6 Windsor turret.  
20" Jones & Lamson, single pulley drive.  
2" Cleveland automatics, (60).

24" Gisholt turret lathes, (3).  
21" Gisholt turret lathe.  
4" Rivett, wire feed.  
34" Cleveland automatic.  
4" National-Acme automatic.  
14" Rivett, plain turret.

### MISCELLANEOUS.

Broaching machine, No 3 Lapointe.  
Cutting-off machine, 64" automatic.  
Gear cutter, 26x10 Cincinnati.  
Hammer, 675 lb. P. & W.

Keyseater, No. 1 Davis.  
Press, inclinable, No. 24 V. & O.  
Shaper, 24" Hendey.  
Shaper, 24" Flather.

## SECOND-HAND MACHINERY

### FOR SALE BY

**W. F. Davis Machine Tool Company**

**549 Washington Blvd., Chicago**    **Leader News Building, Cleveland**  
**Singer Bldg., New York City**    **Union Cent. Life Bldg., Cincinnati**

Write or wire our nearest office for quotations.

This is only a partial list of available machines.

Stop! Look! Inquire!

#### BORING MACHINES—VERTICAL.

- |  |  |
|--|--|
| 30" Flather, one turret head.                    | New 48" Colburn, 1 swivel, 1 turret head, January delivery, (5). |
| 36" B. & S. one turret head, Dec. delivery, (2). | New 60" Colburn, 1 swivel, 1 turret head, January delivery, (4). |
| 38" Baush, 2 heads.                              | 84" Bickford.  |
| 42" Rogers, 2 swivel heads.                      | 10' Niles, 16' extension, 2 heads.                               |
| 42" King, 2 swivel hds., almost new.             |  |
| 51" Niles, 2 swivel hds., motor dr.              |  |

#### BORING MACHINES—HORIZONTAL.

- |  |   |
|--|---|
| New universal with motor, 3" bar, immediate delivery, (2). | Lucas 24" bar.                          |
| 24" Cleveland 24" bar, takes 4' 6", compound table.        | No. 1 Barrett cyl. borer, 34" bar type. |
|  | Betts, knee type, 3" bar.               |
|  | London, 6" bar.                         |

#### BULLDOZERS.

- |                                     |   |
|-------------------------------------|---|
| No. 8 Ajax, motor driven.           | No. 23 Williams & W., belt dr., (2)               |
| No. 9 Williams & White, belt drive. | No. 29-U Williams & W., arranged for motor drive. |
| No. 12 Ajax, single pulley drive.   |   |

#### CRANES.

- |   |                                       |
|---|---------------------------------------|
| 10-ton electric, 47' span, 25' lift, 3 motors, (2). | 10-t. Maris, 55' span, hand operated. |
|   | 50-ton Niles, 61' span.               |

#### CUTTING-OFF MACHINES.

- |                  |                     |
|------------------|---------------------|
| New 44" Davis.   | 44" Williams, (10). |
| 44" Davis, (30). | New 6" Davis, (2).  |

#### DRILLING MACHINES—RADIAL.

- |  |  |
|--|--|
| New 3' Mueller, speed box drive, December delivery, (6). | 5' Dreses, full univ., gear box drive.                   |
| New 3' Am. sens., tapping att., (3).                     | 5' Fossdick, plain.                                      |
| New 3 1/2' Western, 86" circle.                          | New 5' Mueller, speed box drive, December delivery, (6). |
| 4' Mueller, pl., speed box drive, (2).                   | 6' Dreses, plain.  |
| 4 1/2' Bickford, plain.                                  | New 6' Fossdick plain, latest type.                      |
| New 5' Western plain, with motor.                        | New 6' Triumph, motor drive, Oct. delivery.              |
| New 5' Niles universal, with motor.                      |  |

#### DRILLING MACHINES—HEAVY DUTY.

- |   |   |
|---|---|
| New No. 2 Colburn, (2).                                 | No. 310 Baker, single pulley drive, late type, (4). |
| No. 14 Colburn, 24" swing, cap. 2" in solid steel, (3). |   |

#### DRILLING MACHINES—SLIDING HEAD.

- |                                      |                             |
|--------------------------------------|-----------------------------|
| New 24" Barnes drills and tap., (2). | New 24" Barnes drills, (5). |
|--------------------------------------|-----------------------------|

#### DRILLING MACHINES—MULTIPLE SPINDLE.

- |  |  |
|--|--|
| No. 5 Fox 12-spindle, 1" capacity.       | Baush 12-spindle, capacity 1 1/4", 30" circle, motor driven. |
| 14 sp. Baush, cap. 1" holes, 36" circle. |  |

#### DRILLING MACHINES—SENSITIVE.

- |   |   |
|---|---|
| New No. P-4 Allen, 1-spindle.                                       | New No. B-2 Allen, 2-sp., 7" o-hang.            |
| New No. P-3-S Allen, 2-spindle.                                     | New No. B-4 Allen, 4-spindle, 7" overhang, (3). |
| New No. B-1 Allen, 1-spindle, 7" overhang, (2).                     | New 12" Albany, high speed tool room, (3).      |
| New No. B-3 Allen, 3-spindle, 7" overhang, tapping attachment, (3). |   |

#### GEAR CUTTING MACHINES.

- |   |                                     |
|---|-------------------------------------|
| New No. 3 Bickett gear rack planer, delivery 60 days. | 22"x8" G. & E., for spur and bevel. |
| No. 3 Brown & Sharpe auto. spur.                      | 24" Becker Brainard.                |
| New 6" Standard, spur.                                | 24" Fellows gear shaper.            |
| 15" Gleason bevel gear planer.                        | New 30" Flather solid pattern, (2). |
| 16" Bilgrim bevel gear generator.                     | 36" Fellows gear shapers, (3).      |

## SECOND-HAND MACHINERY

### W. F. Davis Machine Tool Company—Continued.

#### GRINDERS—UNIVERSAL FOR CUTTERS, DRILLS, REAMERS.

New No. 190 Wells, (8).  
 No. 1 Cincinnati, (4).  
 New Wilmarth & M. style B. K.  
 New Walker No. 1, outfit B.  
 New No. 1 Wood universal, (3).  
 New No. 2 Wood universal, (5).  
 New Walker No. 2, outfit K., capacity, 9x26".  
 New No. 2 Oesterlein universal, (2).  
 New LeBlond, (7).  
 New Gisholt universal.

#### GRINDERS—CYLINDRICAL—PLAIN.

New 8x18" Modern, self-cont., (2).  
 New 8x30" Modern, self-cont., (3).  
 New 12x24" Modern, self-cont., (2).  
 New 12x36" Modern, self-cont., (6).  
 12x42" Landis, self-contained, (2).  
 New 12x48" Modern, self-cont., (3).  
 New 10x50" Norton, Oct. delivery.  
 14x50" Norton.  
 New 10x72" Norton, plain.

#### GRINDING MACHINES—CYLINDRICAL—UNIVERSAL.

New No. 2 Bath, 9x20", (2).  
 No. 2 new Walker, 9x26".  
 New No. 2 Bath, 10x36".  
 New Thompson, 10x36".  
 No. 3 Brown & Sharpe, 12x40".  
 12x42" Landis.  
 New No. 3 Modern, 13x40", Oct. delivery, (2).  
 No. 4 Cincinnati, capacity 12x72".

#### GRINDERS—INTERNAL.

New No. 6 Modern, cap. 10x10".  
 No. 75 Heald, (2).

#### GRINDERS—CYLINDER.

No. 60 Heald, single pulley drive.

#### GRINDERS—PROFILE.

New Cleveland, Fischer profile grinders, (5).

#### GRINDING MACHINES—SURFACE.

New No. 1 Wilmarth & Morman.  
 New No. 1 Walker's complete, (2).  
 New No. 2 American, with Walker  
 No. 14 plain flat mag. chucks, (2).  
 New No. 2 Reid, same as B. & S., (4).  
 No. 2 Brown & Sharpe.  
 Blanchard heavy vert., with motor, almost new.

#### HAMMERS—BOARD LIFT-DROP.

No. 4 Standard Mchy. Co., 400 lbs. E. W. Bliss, 800 lbs.

#### HAMMERS—STEAM FORGING.

600 to 800 lbs. Morgan & Williams, 3,500 lbs. Chambersburg, stm.dr., (2).  
 21" gap. 5,000 lbs. Chambersburg, stm.dr., (2).  
 3,000 lbs. Morgan, double frame. 7,000 lbs. Morgan, special dbl. stand.

#### KEYSEATERS.

New No. 1 Davis, (2).  
 New No. 2 Davis.  
 No. 2 Mitts & Merrill.  
 No. 2 Knowles, 60" stroke.  
**LATHES—MANUFACTURING, NOT SCREW CUTTING.**  
 New No. 3 Hardinge, bench, (2).  
 16"x8" Fairbanks-M., hvy. duty, (3).  
 Reed-Prentice shell lathes, for 4" or 18 lbs. American shells, (14).  
 New Simplex 16"x8", (70).  
 18"x8" Battle Creek, hvy. duty, (22).  
 20"x10" Hindman, high duty, (50).

#### LATHES—ENGINE.

New 14"x8" Bradford, q. c., (3).  
 New 15"x6" Rockford, (14).  
 New 16"x6" Cleveland, tool room, complete, (3).  
 New 16"x8" Bradford, q. c., (4).  
 New 17"x8" National, q. c. gear.  
 New 17"x8" LeBlond, pan bed, quick change gears, (12).  
 15"x10" Hendey, q. c. g. 14" chuck.  
 New 20"x10" Bradford, q. c., (5).  
 New 20"x10" Cleveland, geared hd.  
 New 20"x10" Cleveland, geared hd.  
 New 20"x12" Bradford, qck. ch., (3).  
 New 21"x10" Porter, s. b. g., (19).  
 22"x10" Putnam, oil pan, pump, (9).  
 New 24"x10" Bradford, quick change.  
 New 24"x12" Bradford, qck. ch., (5).  
 New 24"x14" Bradford, quick change.  
 24"x14" American, quick chg., (3).  
 34"x22" Bullard, triple grd. taper att.  
 New 26x48"x22" McCabe dbl. spd.  
 New 26x48"x12" McCabe dbl. spd.  
 29"x18"x6" Schumacher & Boye.  
 New 30"x14" American d. b. g., q. c.  
 New 32"x12" Pittsburgh pattern.  
 32"x12"6" Rahn-Mayer-C., taper.  
 New 36"x24" Putnam, triple grd., (8).  
 38"x18" Schumacher & B., tr. g. q. c.  
 50"x12" American geared head, q. c.  
 50"x24" Prentiss.  
 New 66"x46" Putnam, triple geared, face plate drive, 5-step cone, 6 1/2" belt, October delivery.  
 71"x20" Fifield, triple geared.

(Continued on next page)

## SECOND-HAND MACHINERY

### W. F. Davis Machine Tool Company—Continued.

#### LATHES—TURRET.

- |                             |                                   |
|-----------------------------|-----------------------------------|
| New 13" Gisholt G-13.       | New 18" Libby.                    |
| New 21" Gisholt H-21, (8).  | 24" Libby, universal facing head, |
| New 24" Gisholt I-24, (2).  | 2-jaw chuck, (3).                 |
| 2"x24" Jones & Lamson, (5). | 6-A Potter & Johnston, (18).      |

#### MILLING MACHINES—KNEE TYPE, UNIVERSAL.

- |                                    |                       |
|------------------------------------|-----------------------|
| No. 2 Kempsmith, vertical attach.  | No. 2 LeBlond.        |
| No. 2 Kempsmith, 13", dividing hd. | New No. 3 Hendey.     |
| No. 2-B Kearney & Trecker.         | New No. 3 Owen, (10). |
| New No. 2 Rockford high power.     |                       |

#### MILLING MACHINES—KNEE TYPE, PLAIN.

- |                                  |                                    |
|----------------------------------|------------------------------------|
| New No. 0 Rockford, (9).         | New No. 3 Kempsmith.               |
| New No. 1 Kempsmith, (2).        | New No. 3 Conradson, single pulley |
| New No. 1½ American, b. g., (2). | drive, (5).                        |
| New No. 2 Rockford, (2).         | New No. 2-H LeBlond, (4).          |
| New No. 2 Owen, Nov. del., (10). | New No. 4 LeBlond.                 |
| No. 3 LeBlond.                   | No. 4 Brown & Sharpe.              |

#### MILLING MACHINES—HAND.

- |   |  |
|---|--|
| New No. 1 Rockford, without col-<br>umn, (3). | New No. 3 Rockford, on col., (2).                  |
| New No. 2 Rockford, on col. (3).              | New No. 3 Rockford, on column,<br>power feed, (3). |

#### MILLING MACHINES—VERTICAL.

- |                       |                           |
|-----------------------|---------------------------|
| New No. 0 Bickett.    | New No. 4-B. Becker, (2). |
| No. 3 Brown & Sharpe. | No. 5 Becker, (2).        |

#### MILLING MACHINES—PLANER TYPE.

- |   |                                      |
|---|--------------------------------------|
| No. 2 Beaman & Smith.                                 | New 17"x8" Eynon, planer type.       |
| Ingersoll slab, 16"x48" cap.                          | 30"x30"x8" Ingersoll No. 928, single |
| Bement Niles heavy duty, planer<br>type, 24"x24"x12". | spindle, with motor.                 |

#### MILLING MACHINES—LINCOLN TYPE.

- |                          |  |
|--------------------------|--|
| New No. 1 American, (3). | New Sellers auto., quick return, (18). |
|--------------------------|--|

#### PLANERS.

- |  |  |
|--|--|
| 24"x24"x8" Cincinnati, 1 head, used<br>3 months. | 50x50"x18" Pond, 2 heads on rail.  |
| 30x30"x8" Ohio Mch. Tool Co., 2 hds.             | 60x60"x21" L. W. Pond, 3 heads.  |
| 36x36"x10" American, 2 heads.                    | 72x60"x18" Gray, 4 heads.  |
| 40x40"x11" Niles, 4 heads.                       | 72x72"x20" McKechrin & Bertram,<br>4 heads.                                      |
| 48"x12" Pedrick openside, 1 head.                | 36" Niles plate planer, extra heavy,<br>almost new, arranged for motor<br>drive. |
| 52x52"x16" Betts, 2 hds., right angle<br>drive.  |  |

#### SCREW MACHINES—HAND.

- |  |  |
|--|--|
| New No. 2 Foster, geared friction head, (4).                                     |  |
| New No. 4 Foster, geared friction head, power feed to turret slide.              |  |
| New No. 5 Foster, all geared, power feed to turret slide, (2).                   |  |
| New No. 5 Foster, all geared head, power feed to turret, power cr. fd., (3).     |  |
| New No. 6 Foster, geared friction hd., power feed to turret, pwr. cr. fd., (2).  |  |
| New No. 7 Foster, geared friction hd., power feed to turret, pwr. cr. fd., (5).  |  |
| New No. 10 Foster, geared friction hd., power feed to turret, pwr. cr. fd., (2). |  |
| New 24" Drees, f. g. b., power feed, (2).  |  |

#### SCREW MACHINES, AUTOMATIC.

- |   |  |
|---|--|
| New 6" Cleveland, model A, (2).                     | New 24" Gridley, multiple spindle,<br>belt driven. |
| New 8" Gridley, mult. sp., belt dr.                 | New 34" Gridley, sgl. sp., belt dr.                |
| New 14" Gridley, multiple sp., belt<br>driven, (2). | No. 0 Brown & Sharpe, (2).                         |
| New 14" Gridley, multiple sp., belt<br>driven, (2). | No. 2-G Brown & Sharpe.                            |
|   | No. 515 National Acme.                             |

#### SHAPERS.

- |                            |                                   |
|----------------------------|-----------------------------------|
| New 16" Springfield.       | 23" Springfield.                  |
| 16" motor driven Rockford. | 25" Smith & Mills, bk. grd., (2). |
| New 24" Barker.            | 30" Morton, draw cut, (2).        |
| New 24" Milwaukee, (3).    |                                   |

#### SLOTTERS.

- |  |  |
|--|--|
| New 8½" Betts heavy model vertical geared crank slotter. |  |
|--|--|

## SECOND-HAND MACHINERY

### FOR SALE BY

**McCoy-Brandt Machinery Company**  
Office and Warehouse, 216-218 Penn Ave., Pittsburgh, Pa.

Good Used and New Equipment.

#### ELECTRIC TRAVELING CRANES.

20 ton Browning trolley, 5 ton aux.  
hoist, 564" ga. (new).  
20 ton Shaw 56' 3" span, 110 v., d. c.  
10 ton P. & H., 48' span, 110 v., d. c.

20 ton Reading, 29' 6" span, hand.  
10 ton Maris, 55' 0" span, hand.  
2 ton hand, 22' span, single or dbl.  
trolley, (8).

#### GRINDERS.

No. 10 Brown & Sharpe pl., belted.  
Grinder and buffer, double end.

No. 13 B. & S., universal and tool.  
Grindstone, 34x5, belt driven.

#### LATHES.

30"x16' Johnson, tri. grd., cone dr.  
24"x12' Lodge & S., cone dr., q. c.  
24"x10' American hi-duty latest type,  
(new).  
19"x10' Sidney, d. b. g., (new) 3.  
15"x 6' Sidney, s. b. g., cone driven,  
t. a. (new).

17"x 8' Sidney, d. b. g., (new).  
18"x10' South Bend, cone dr. (new).  
16"x 8' South Bend, cone dr. (new).  
15"x 7' South Bend, cone dr. (new).  
15"x 6' South Bend, cone dr. (new).  
13"x 6' South Bend, cone dr. (new).  
12"x 5' Spd. lathe, tool holder & c. s.

#### MILLING MACHINES.

No. 4 Garvin plain, table 6x30", cone  
driven.  
No. 2 Cincinnati univ., cone driven.

No. 1 Bickett horiz. miller (new).  
No. 0 Hickett vertical miller and  
profiler (new).

#### PRESSES.

No. 11 Perkins (trimming) bed 24x30. 4" str., wt. 16,000 lbs., with side shear.  
No. 225 Adriance (punch) 2" stroke, geared, wt. 7,000 lbs.  
No. 65 Toledo (cam drawing) 7" and 4" strokes, geared.  
No. 19 Avery, o. b. i., 2" strokes; equal No. 19 Bliss.

#### PUNCHES AND SHEARS.

Sgl. 48" thrt., cap. 3x1 1/2", Providence.  
Single 16" throat, capacity 1 1/2x1 1/2",  
belted, W. & R.  
Single 36" throat, cap. 1 1/2", belted,  
Cleveland "E".  
Single 17" throat, cap. 1 1/2", belted,  
American.  
Single 15" throat, cap. 1 1/2", (hand)  
New Doty.  
Double 12" blades, bar shear, cap.  
2" square cruc.  
Double angle shear, capacity 6x6x1 1/2",  
Cleveland, belted.  
Universal plate shear, 18" blades,  
cap. 1 1/2", Cleveland, belted.

Sgl. 28" thrt., cap. 1 1/2", belted, Cleve.  
Lennox rotary splitting, 30" throat,  
cap. 1 1/2", belted.  
Lennox rotary bevel, 5" throat, cap.  
1 1/2", belted.  
Guillotine shear, cap. 2 1/2" sq., belted,  
Perkins No. 6.  
Guillotine shears No. 0, H. & J., 6"  
and 7" blades, (2).  
Butterfly shear, 3 blades, 8" long—  
rapid cutting.  
Squaring shear, Stoll, 53", cap. 14  
guage (new).  
Circle shear, No. 20 P. S. & W., cap.  
20 guage.

#### MISCELLANEOUS.

Air drill, Chicago No. 1, chuck.  
Bolt cutter, 2" Acme, single head,  
dies 1 to 2".  
Bulldozer, No. 12 Ajax, 30" strokes.  
Bulldozer, No. 29-U W-W., 28" str.  
Drill press, 20" Silver, hand or pwr.  
feeds (new) 6.  
Drill press, 14" Excelsior, (new) 6.  
Drill press, 20" sliding hd., old.  
Gas engine, 12 h. p. New Era, horiz.  
Gas engine, 30 h. p. Struthers-W.,  
1 cylinder horizontal.  
Gas engine, 125 h. p. Bessemer, 2  
cylinder, horizontal.  
Hack saw, No. 2 Robertson, 5x5".  
Hack saw, No. 2 and 4 Economy,  
cap. 6x6 and 8x8 (new).  
Hack saw, Peerless 6x6 (new).  
Pipe machine, 2" Bignall & Keeler.  
Pipe mch., 6" old style, belted, dies.

Pipe machine, 6" Forbes, hand, dies.  
Planer, 74"x52"x24" Pond, single hd.  
(old, cheap).  
Planer, 30"x30"x8" Gale, 1 head.  
Planer, 22"x22"x4" Brettel, sgl. hd.  
Planer, 22"x22"x4" Pond, single hd.  
Radial, 4" Bickford, pl. cone dr., (2).  
Radial, 2 1/2" Canedy, cone dr., (new).  
Rotary planer, 36" Cleve., belt dr.  
Saw, cold, 27" Q. & C. cap. 15" beams  
or 8" rounds.  
Saw, cold, 26" Newton, belt driven.  
Saw, No. 2 Thompson, metal jig.  
Shaper, 18" Steptoe crank, with c. s.  
Shapers, 24", 18", 16" Barker, (new).  
Straightening and bending machine,  
cap. 15" beams.  
Thread rollers, 3" Waterbury-F.  
Turret lathe, No. 4 Jones & Lamson,  
3" h. s., (hand).

## SECOND-HAND MACHINERY

### FOR SALE BY

Simmons Machine Co., Inc.

Main Office and Warehouse, 981-985 Broadway, Albany, N. Y.

### Branch Offices:

1001 Singer Building, N. Y. City, 358 Ellicott Sq., Buffalo, N. Y.

### GRINDERS.

New Premier tool and cutter, (25).  
LeBlond univ. tool and cutter, p. f.  
Miami universal tool & cutter.  
Style BX Wilmarth & Morman cutter & tool, drill grinding att.  
6"x32" Norton plain, pwr. fd., (12).  
New No. 3 Modern universal, capacity 13"x40", (2).

No. 3 Landis univ., capacity 10"x36".  
16"x36" Bridgeport plain.  
New 18" dbl. disc, Hoysradt & Case.  
No. 6-C Diamond, one cup, one disc wheel.  
Ford-Smith, for grinding 3" shells.  
New Dumore electric tool post, with equipment A, (12).

### MILLING MACHINES.

New 10" Simmons universal index centers, (25).  
New No. 2 Rockford plain.  
Slightly used No. 2 Cincinnati univ.  
New No. 2A Garvin universal.  
No. 2 Kearney-Trecker plain.  
Used No. 2 Kempsmith universal.  
No. 2 American universal.  
New No. 2 LeBlond plain.  
No. 3 Brown & Sharpe plain.

New No. 3 Kempsmith plain.  
Used No. 3 Becker universal.  
No. 4 Garvin plain, table 14"x56".  
No. 4 Brown & Sharpe plain.  
New No. 13 Garvin pl., table 42x12".  
Garvin plain, table 30"x7".  
No. 5 Becker vertical, table 48x13".  
New No. 1 Kempsmith, vertical attachment, (2).  
New No. 2 Kempsmith, vert. att.

### BORING MACHINES.

42" Rogers vertical, 2 swivel hds.  
42" McCabe vertical, 1 swivel hd.

No. 2 Barrett horizontal cylinder boring machine, with 5" bar.

### PLANERS.

24"x24"x6" Powell, one head.  
24"x24"x6" Lathemorse, one hd.  
24"x24"x7" New Haven, one head.  
24"x24"x8" Putnam, one head.  
25"x25"x6" Sellers, one head, (5).  
28"x26"x6" D. W. Pond, 1 head.

30"x30"x8" Pond, 1 head.  
30"x30"x10" Sellers, 1 hd., worm dr.  
30"x30"x8" Wheeler, one head, good as new.  
36"x36"x16" Gray, 1 head.  
42"x42"x10" Pond, 1 head.

### LATHES.

9"x3" Premier, screw cutting.  
New 13"x6" Filsmith, tool room. taper att., draw-in chuck, pan.  
New 13"x5" Lancaster, (4).  
14"x6" Reed.  
New 15"x6" Sidney, tool room, q. c., taper and relieving att., (2).  
16"x8" Draper.  
16"x8" Lodge & Shipley, q. c.  
16"x8" Putnam, (2).  
18"x8" Porter, (3).  
18"x8" Pond.  
New 19"x8" Sidney, q. c., d. b. g., (4).  
20"x8" Prentice, grd. hd., sgl. pulley drive, q. c., (2).  
20"x8" LeBlond.  
20"x8" Reed, (2).  
20"x8" Reed.

20"x6" Perkins, pan and pump, (8).  
20"x8" Harrington.  
24"x8" Reed.  
24"x8" Reed, (2).  
26"x18" Bullard.  
26"x13" Bullard.  
26"x18" Putnam, raising blocks to swing 40".  
26"x6" Premier heavy lathe, 18" between centers.  
30"x8" Fitchburg.  
32"x12" Draper.  
36"x18" Bement, c. r., p. c. f., used.  
40"x12" Pond, triple geared.  
40"x26" Prentice, raising blocks to swing 60".  
Large pit lathe, with 9" internal drive face plate.

### DRILLING MACHINES.

3" Bickford radial.  
New 3" Western plain radial.  
4" Mueller radial, tapping att.  
4" Lodge & Davis radial.  
Rockford heavy duty.  
No. 310 Baker heavy duty, (12).  
24" Prentice, sliding head.  
New 3" No. 50 C.-Otto post radial.  
New 3" No. 51 C.-Otto plain radial.

20" No. 36 Canedy-Otto, stationary head, power feed, b. g.  
20" No. 35 Canedy-Otto, stationary head, (6).  
36" Aurora, sliding head.  
40" Industrial, stationary head, (3).  
Burnham, 3-spindle sensitive.  
Rockford 6-spindle, mfg. type.  
New Dumore electric bench drill.



## SECOND-HAND MACHINERY

### Simmons Machine Co., Inc.—Continued.

#### SHAPERS AND SLOTTERS.

12" Bement, traveling head.  
New 16" Smith-Mills, back geared.  
New 20" Cleveland, bk. grd., (6).  
20" Smith-Mills, back geared.

New 24" Cincinnati, high duty.  
24" Gould & Eberhardt, b. g. crank.  
10" Newton slotter, 22" circ. table.  
20" Bement slotter.

#### TURRET LATHES AND SCREW MACHINES.

20" Potter & Johnston semi-automatic turret lathe.  
20"x8" Perkins turret lathes, (14).  
20"x8" Bridgeport turret lathe.  
24" Gisholt turret lathe.  
2"x24" Jones & Lamson cone type turret lathes, (3).

34"x36" Jones & Lamson chucking lathes, cone type, (2).  
14" Warner & Swasey turret lathe.  
New No. 2 Leisy-Patton hand screw machine, 1" capacity.  
Pratt & Whitney turret screw machines, 1 1/2" capacity, 16" swing.

#### AUTOMATICS.

National Acme 4-spl., 1/2" capacity.  
1" National Acme 4-spindle.  
No. 54 National Acme, 1/2" capacity.  
No. 55 National Acme, 1 1/2" cap., (2).  
2" Cleveland, 5-hole turret, (2).

24" Cleveland, 5-hole turret.  
Slightly used 24" gridley sgl. spld.  
24" Gridley sgl. spld., motor dr., (2)  
34" Gridley sgl. spld., motor driven.  
44" Gridley sgl. spld., motor driven.

#### MISCELLANEOUS.

Bolt cutter, 2" National.  
Pipe machine, 8" Eaton, Cole & B.  
Pipe machine, 8" Williams.

Punch and shear, No. 4 Long & Allstatter, single end.

Write for our complete list.

What have you for sale?

### FOR SALE BY

#### The Canton Machine Shop,

320 Rex Ave., Canton, Ohio

Belt polishing machine.  
Buffing lathe.  
Die grinder.  
Drill, 20", back geared, s. h.  
Drill, 25", s. h., b. g.  
Drill, 30", s. h., b. g.  
Drill, 36", s. h., b. g.  
Emery grinder.  
Lathe, 16"x6", plain.

Lathe, 18"x8" Mueller.  
Lathe, 24"x10", 5" raise block.  
Lathe, 24"x12" Porter, 3" r. b.  
Pipe machine, No. 7 Jarecki.  
Pipe machine, No. 11 Jarecki.  
Planer, 26"x26"x6".  
Planer, 26"x26"x12", 2 heads.  
Punch press, No. 5 Farrell.  
Shaper, 16" Ohio.

### FOR SALE BY

#### Homer Strong,

210 State St., Rochester, N. Y.

Branch Offices: Syracuse, Buffalo, Albany.

Machine Tools in stock for immediate delivery.

#### BORING MILLS.

42" Gisholt, 2 swivel heads.

30" Bullard, 1 turret head.

#### RADIAL DRILLS.

3 1/2" Morris (like new).

#### PLANERS.

54"x42"x16" Gray, 3 heads.

25"x25"x 6' Sellers, single head.

36"x36"x 9' Gray, 2 heads.

22"x22"x 5' Hendey, 1 head.

#### GEAR CUTTERS.

No. 1 Cincinnati spur gear cutter, 10x26, like new.

Whiton 30" spur and bevel, like new.

#### MILLING MACHINES.

No. 3 Cincinnati plain.

No. 2 Brown & Sharpe universal miller.

No. 1 1/2 Hendy miller.

#### GRINDERS.

No. 1 Cincinnati tool and cutter grinders, (2).

New and Used Machine Tools in stock for immediate delivery.

We carry a very large stock in our Rochester warehouse, ready for shipment at once. Stock includes both new and used lathes, shapers, milling machines, screw machines, grinders, etc., etc. We believe we can serve you to your advantage.

## SECOND-HAND MACHINERY

### FOR SALE BY

New York Machinery Exchange, Inc., 50 Church St., New York City  
Machine Shops and Warehouses: Jersey City  
222-234 Culver Ave. 63-83 Pollock Ave.

New York's Greatest Stock.

(Partial List)

### NEW SHAPERS IN STOCK.

Nine 24" new triple geared crank shapers.

Immediate shipment.

### LARGE PLATE PLANER.

No. 6 Niles, capacity at one setting 36' by 2" thick plate.

### GEAR CUTTERS.

45" Newton auto., arranged for motor drive, (4).

49" Flather automatic, spur.

36" B. & S. auto., hob and spur.

24" Brown & Sharpe auto., spiral.

24" Gould & E., spur and bevel.

24" Whiton auto., spur and bevel.

24" Brainerd automatic, spur.

No. 12 Brown & Sharpe automatic, spur and bevel, (2).

19" x5" Grant Lees automatic, spur and spiral.

### HAMMERS.

2,000 lb. Morgan, steam drop.

1,800 lb. Billings & S., board drop.

1,600 lb. Bement, single leg sream.

1,500 lb. Billings & S., board dr., (2).

1,200 lb. Billings & S., board dr., (3).

800 lb. P & W., board drop, forging.

750 lb. Toledo, rope lift drop.

600 lb. Niles-B.-P., sgl. leg atm., (2).

New 400 lb. Bement-M., dbl. leg atm.

200 lb. Bradley, upright compact.

200 lb. Waterbury-Farrel plain drop.

100 lb. Niles-Bement-Pond, hand dr.

75 lb. Belden, upright strap.

60 lb. Bradley, cushioned helve, (3).

50 lb. Beaudry.

40 lb. Bradley, cushioned helve.

40 lb. Gould & Eberhardt, hand rope drop, (4).

### BORING MILLS AND SLOTTERS.

34" Rogers vert., single turret head.

30" Bullard vert., sgl. turret hd., (5).

20" Bullard vert. turret lathe, with side head and turret head.

18" Bullard vert. turret lathe, with side head and turret head.

Betts horizontal, 2 1/2" bar.

48" Niles car wheel boring mill.

20" Sellers slotter.

14" Industrial slotter.

12" N. Y. Engineering Co. slotter.

10" New Haven slotter.

### PLANERS AND SHAPERS.

60"x60"x28" Betts planer, 2 heads.

55"x46"x14" Lincoln, 4 heads.

48"x48"x12" Niles, 2 heads.

32"x32"x10" Pond.

30"x30"x8" Pease, 2 heads.

28"x28"x7" New Haven (2).

26"x26"x8" Niles.

26"x26"x6" Hendey.

25"x20"x6" Pond.

24"x24"x8" Chandler.

24"x24"x6" Flather.

22"x22"x6" Pond heavy duty.

22"x22"x4" Pratt & Whitney.

22"x22"x2" Pond.

16"x16"x4" Walter Bros., (2).

28" Smith & Mills dbl. grd. shaper.

26" Lodge & Davis geared shaper.

24" Steptoe geared shaper.

24" Hendey friction shapers, (2).

21" Juengst crank shaper.

20" Smith & Mills geared shaper.

15" Hendey friction shaper.

15" Williams geared shaper.

10"x42" traveling head shaper.

### MILLING MACHINES.

No. 4B Brown & S. pl., sgl. pulley dr.

No. 4 Cincinnati heavy duty plain, single pulley drive.

No. 4 Brown & Sharpe plain.

No. 2 Hendey-Norton univ., dividing head, vertical att.

No. 2 Cincinnati universal.

No. 2 Cincinnati plain.

New No. 1 1/2 American improved, pl.

No. 14A Garvin plain.

No. 1 Kempsmith plain.

No. 5 Brown & Sharpe vert., (2).

Beaman & Smith 2-spindle vertical, slab, table 24"x48".

### BENDING ROLLS.

No. 1 Hilles & Jones straightening rolls, 5' 2" between housings.

Ship plate bending rolls, 9' 2" between housings.

Ship plate bending rolls, 5' 10" between housings.

Niles double geared bending rolls, drop end housing, 40 1/2" between housings.

## SECOND-HAND MACHINERY

### New York Machinery Exchange, Inc.—Continued.

#### PUNCHES AND SHEARS.

Wm. Sellers punch, 48" throat, capacity 6" in 1 $\frac{1}{2}$ ".  
 Newell punch, 53" throat.  
 Wm. Sellers double end punch & shear, 21" throats, punch 1 $\frac{1}{2}$ " in 1".  
 Bass Machine Co. double end punch & shear, 20" throats, punch 1 $\frac{1}{2}$ " in 1".  
 No. 4 Industrial double end punch & shear, 20" throats, capacity 1" in 1".  
 No. 3 Royersford dbl. end punch & shears, 16" throats, punch 1 $\frac{1}{2}$ " in 1", (2).  
 No. 3A Royersford double end punch & shear 10" throats, punch 1" in 1".  
 Perkins single end punch & shear, 30" throat, punch 1" in 1".  
 Columbus single end punch, 24" throat.  
 No. 000 Hilles & Jones single end punch & shear, 13 $\frac{1}{2}$ " throat, punch 1" in 1".  
 Reade single end punch, 15" throat.  
 Kling Bros. rotary splitting shear, arranged for motor drive, capacity 1" plate, will split any width sheet.  
 No. 17 Niagara rotary shear, circle cutting attachment, 25" throat, cut circle to diameter of 72".  
 Pels beam shear "T-40", capacity to 15", 60 lb. 1 beams.  
 Bement plate iron shear, 26" throat.  
 Coping machine, 3" stroke, cope 24" I beams; weight 10,000 lbs.  
 Several new hand power punches and shears.

#### FOR SALE BY

**A. D. White Machinery Co., - 108-114 N. Jefferson St., Chicago.**

#### SCREW MACHINES.

1" LaVigne.	1" Cleveland, friction jigger feed.
7-16" Cleveland, friction feed.	1 $\frac{1}{2}$ " LaVigne, (2).
1" Cleveland, friction feed.	2 $\frac{1}{2}$ " Hartford.
1" Cleveland, friction feed.	1" Cleveland, semi-automatic.
1" Cleveland, jigger feed.	No. 2 Hercules, hand, new.
1" Hartford.	

#### DRILL PRESSES.

25" Bickford, sliding head.	3-spl. American.
32" Bickford, sliding head.	4-spl. Dwight Slate.
Single spld. H. & W. high speed.	8 spld. Valley City mult., No. 1 taper.
2-spld. Rockford L. & D. Co.	12 spld. Baush multiple, No. 2 taper.

#### ENGINE LATHES.

10"x54" Davis.	28"x10' Fifield.
11"x 5' South Bend.	28"x25' Blaisdell.
14"x 6' Monarch.	28"x25' Putnam.
16"x12' Beaman & Smith.	30"x14' Blaisdell.
24"x10' Putnam.	32"x14' Pond.

#### PUNCH PRESSES AND PUNCHES AND SHEARS.

No. 21-H Crosby horn press.	No. 1 Partridge foot presses, (2).
No. 204 Toledo overhanging press.	18" throat geared punch.
No. 29 Bliss, gang, dbl. action.	No. 380 Toledo slitting shear, 16 ga.

#### GRINDING MACHINES.

10" Ransom, disc.	2" Springfield, double wheel, floor.
Yankee Style "B", drill.	Springfield, dbl. wheel, water.
1 $\frac{1}{2}$ " Norton, floor, (2).	No. 2 Leland & F., water.
1 $\frac{1}{2}$ " Safety emery wheel, floor.	No. 38 Safety Emery Wheel Co.
2" No. 7 Sterling, floor.	plow grinder.

#### MISCELLANEOUS.

Boring machine, car wheel, No. 55 Industrial.	Miller, slab, 22", Eynon-Ingersoll.
Bolt cutters, 1 $\frac{1}{2}$ & 2" Acme, sgl. hd.	Miller, No. 2 Becker vertical.
Blower, No. 3 Root.	Oil gas generator, No. 3 American.
Die filing machine, Simplex.	Planer, 35"x35"x12' Niles, 2 heads.
Engine lathes, new, 14", 16", 18".	Riveter, 1" Schuster.
Gas engine, 35 h p. Columbus.	Saw, band, Williamson, tilting.
Hammers, 40 & 60 lb. Bradley cu. hlv.	Saw, cold, Bryant, 19 $\frac{1}{2}$ " dia. saw.
Hammer, 500 lb. Sandage, lift.	Saw, cold, No. 5 $\frac{1}{2}$ Nutter-Barnes.
Keyseater, 36" Morton portable.	Shaper, 7 $\frac{1}{2}$ Rhodes, vert. attach.
	Shapers, new Kelly and Averbek

## SECOND-HAND MACHINERY

### FOR SALE BY

**Swind Machinery Co.,**

**Widener Bldg., Philadelphia, Pa.**

For Immediate Delivery.

Air forging hammers, No. 3 Nazel Beche, capacity 5x5", used, (2).

Air forging hammer, No. 4 Nazel Beche, capacity 7x7", used.

### NEW MACHINES.

Drill press, 3-spindle Kern, ball bearing.

Grinders, universal cutter and reamer, high grade, (2).

Grinder, universal profile, Fischer.

Shapers, 14", 16" and 20" stroke.

Shear, rotary ring and circle, capacity No. 10 gauge, circles 10" to 60" diam.

### FOR SALE BY

**Chas. Molitor Machinery Co., 118-124 S. Clinton St., Chicago, Ill.**

### ENGINE LATHES.

11"x5' Rockford, c. r., h. s.

14"x8' Prentice Bros., c. r., h. s.

16"x5' F. E. Reed stud lathe.

16"x8' LeBlond, c. r., h. s.

18"x8' Morris, 3-step cone, d. b. g.

18"x8' LeBlond, 4-step cone, d. b. g.,  
hexagon turret on bed with pwr. fd.

26"x12' Perkins, c. r., h. s.

32"x20' New Haven, c. r., 14" h. s.

10"x4' b. g. bench lathe, with slide  
rest.

Niles heavy double end axle lathe,  
center drive, 16" opening, 24" swing,  
8' centers.

### TURRET MACHINERY AND SCREW MACHINES.

No. 2 Garvin, w. f., a. c. 1/2".

No. 2 Garvin, b. g., f. h., w. f., a. c.  
1 7-16".

No. 2 Pearson, w. f., a. c. 1".

16"x8' Star b. g. monitor.

12"x4' Foster plain monitor.

### PUNCH PRESSES.

No. 1 V. & O., o. b. i., 1 1/2" str.

No. 2 Leader, o. b. i., 1 1/2" str.

No. 3-A Standard, straight sided,  
1" stroke.

No. 69 Crosby b. g. press, bolster  
24x16, 1" str.

No. 2 Amer. Can, solid bk., 1 1/2" str.

No. 202-B Toledo, double crank,  
b. g., 1 1/2" str., 11x36 bolster plate.

Consolidated horizontal 8" stroke  
straight sided trimming press, 16"  
between uprights.

### MILLING MACHINES.

Newton, heavy, plain column, 48"  
auto. table feed, vertical, horizontal  
and rotary milling attachment,  
weight about 8500 lbs.

No. 6 Garvin, b. g., plain, with 10"  
univ. div. hd., wt., 6000 lbs.

Davis, hand bench, collet att.

Chicago, column, hand, o. h., (2).

### DRILL PRESSES.

12" Acme, sensitive.

14" Rockford, sensitive.

14" Allen, sensitive.

15" Barnes, gear driven.

20" Mechanics, plain.

20" Sibley & Ware, w. & l.

22 1/2" Barnes, b. g., p. f., sliding hd.

23" Rockford, b. g., p. f., sta. head.

24" Mechanics, b. g., p. f., slid. hd.

4 sp. Henry & Wright high speed.

Andrew 9-spindle straight line ad-  
justable rail drill, 8' maximum  
centers, 3" minimum, cap. 1/2" drills.

### SHAPERS AND PLANERS.

15" Lodge & Davis crank shaper.

24"x24"x5' Gray planer.

### MISCELLANEOUS.

Bulldozer, double end, wt. 7500 lbs.

Fender wiring machine, Yoder.

Grinder, gear cutter, 18" G. & E.

Gear hobber, 18" Grant-Lees.

Hammer, steam dr., 600 lbs. Bement.

Keyseater, Mitts & M., 2" cap.

Keyseater, Morton, 1 1/2" capacity.

Nut tapper, National 4-spindle ver-  
tical, 1/2" cap.

Punch, grd., 27" throat, 1/2" thro 1/2".

Shear, squaring, 10' Ryerson, with  
rotary traveling cutter for 20 gauge.

Shear, square, 8' Niagara, for 18 ga.

Shears, square, 30" P. S. & W., (3).

Speed lathes, 10"x4' Seneca Falls, (3).

Spinning lathe, 30" Stoll.

Steel brakes, 4' and 8'.

Wire straightener, power, 1" cap.

Large assortment of tinner's tools, folders, rolls, punches, shears, electric  
motors and drills, buffing machines, grinders, arbor presses, lathe chucks,  
machinists' bench vises, time clocks, gas furnaces, foot lever presses, hack  
saws, air compressors, fans, blowers, bench drills, filing machines, index  
centers, turret heads, anvils, tapping machines, bench lathes.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Brown-McDonald Machinery Co., 2323 N. 9th St., St. Louis, Mo.**

#### LATHES.

12" x 6' South Bend, h. s., compound rest, new .....	\$ 290.00
15" x 8' South Bend, h. s., compound rest, new .....	390.00
16" x 8' South Bend, h. s., compound rest, new .....	470.00
18" x 10' South Bend, h. s., compound rest, new .....	620.00
14" x 8' American, q. c. g., h. s., compound rest .....	575.00
20" x 8' Oakley, d. b. g., h. s., comp. rest, not screw cutting, (4), each .....	550.00
38" x 14' Fitchburg, s. s., compound rest .....	1500.00
12" Warner & Swasey speed lathe .....	40.00
14" Warner & Swasey, turret .....	250.00
14" Pierce, turret, cap. 1/2", new .....	360.00

#### DRILLING MACHINES.

No. 1 Burke, bench, sensitive, 3/4" cap., with chuck; new (3), each .....	\$ 17.50
No. 28 Western Chief, bench, sensitive, 3/4" cap.; new (2), each .....	25.00
14" Excelsior, sensitive, 1/2" cap. ....	57.50
20" Stover, square base, lever .....	60.00
20" Champion, sq. b., lever feed; new (3), each .....	100.00
20" Champion, sq. b., wheel and lever feed; new (3), each .....	115.00
20" Silver, square base, b. g., p. f., new .....	135.00
26" Aurora, sliding head, back geared and p. g. f.; new .....	325.00
24" Bickford, sliding head, wheel and lever feed .....	100.00
No. 101 Canedy-Otto radial, 3/4" arm, new .....	550.00

#### SHAPERS.

16" Milwaukee, back gear, new .....	\$ 725.00
20" Milwaukee, back gear, new .....	850.00
15" crank, with vise .....	275.00
16" American, crank, back gear .....	550.00

#### SCREW MACHINES.

No. 2 Smurr & Kamen, cap. 1/2", new .....	\$ 425.00
No. 4 Smurr & Kamen, grd. friction head, p. f. to tur., cap. 1 1/4", new ..	800.00

#### SHEARS.

No. 11-A Badger, alligator, cap. 1/2 x 3 .....	\$ 65.00
No. 15-A Niagara ring and circle shear, head only .....	75.00

#### SAWS.

Hack, 6x6 Peerless, high speed, new .....	\$ 142.50
Hack, 6x6 Racine, high speed, new .....	110.00

#### BRAKES.

6' Robinson, cap. 20 ga.; (2), each .....	\$ 100.00
8' Robinson cornice brake .....	155.00
8' Robinson, heavy type, power .....	300.00

#### COMPRESSORS.

6x6x6 Laidlaw-Dunn-Gordon, steam; cap. 30 cu. ft. ....	\$ 125.00
10x10 Star, vertical, with engine, double acting; cap. 120 cu. ft. ....	450.00

#### MISCELLANEOUS.

Air hoist and trolley, 12x48, vertical .....	\$ 60.00
Blower, No. 2 Root rotary, with engine .....	250.00
Blower, No. 9 Sturtevant .....	100.00
Blower, pressure, No. 7 Sturtevant on base .....	125.00
Bolt cutter, Acme 1 1/2" double head .....	300.00
Chuck, Simplex, 12", 4-jaw independent, new .....	35.00
Chuck, Sweetland, 4", 3-jaw scroll, rev. j., new .....	21.00
Chuck, Sweetland, 7", 3-jaw scroll, rev. j., new .....	30.00
Hammer, helve, 60 lb. Knowlton .....	250.00
Milling machine, No. 6 Whitney, hand .....	175.00
Pipe machine, Borden, belted; cap. 2" .....	175.00
Punch & shear, No. 1B New Doty, cap. 1 1/4 in 1/4 .....	400.00

## SECOND-HAND MACHINERY

### FOR SALE BY

**Fred C. Dickow, - - - 31-35 S. Desplaines St., Chicago, Ill.**

#### LATHES.

15"x5' Blaisdell, comp. rest .....\$275.      24"x15' New Haven.....\$500.  
16"x6' Pratt & Whitney, c. r..... 375.      11½"x3½' Foster & Kimball tur... 275.  
36"x12' Bement, plain rest..... 500.      Putnam single axle lathe.

#### MILLING MACHINES.

No. 2 B. & S. plain.....\$1100.      22" Ingersoll type slab miller, \$ 650.

#### MISCELLANEOUS.

Beam shear, Pell, pwr., steel frame.      Drill press, 16 spindle P. & W.  
Bench drills, (5).      Drill press, multiple, adjustable  
Boring mche., Corliss engine cyl.      spindle, Western.  
Broaching machines, Nos. 1 and 2      Gear cutter, duplex, Garvin auto.  
Knowles, horizontal.      Planer, 24"x24"x6' New Haven, \$700.  
Car wheel borer, 42" Niles.      Profiling machine, No. 2 Ames dbl.  
Drill presses, 20", (5).      spindle, \$ 350.  
Floor drills, joiner, saws and other wood-working machines; power hack  
saws, index centers, etc.  
Let us know your wants. We have many other machines.

### FOR SALE BY

**Cyril J. Bath & Co., Offices 428 Leader-News Bldg., Cleveland, O.  
Warehouse 1031 West Front St.**

Good Machines at Fair Prices—In stock.

#### DRILLING MACHINES.

32-spindle Baush multi-spindle, for crankcase work; good as new.  
3' Bickford plain back geared, belt feed, cone belt drive, swivel table, planed  
base; very good condition; weight 3800 lbs.  
Bement 50" heavy drilling and trepanning machine, vertical double housing;  
very good condition.

#### GEAR CUTTERS.

One 15" and two 18" Gleason bevel gear generators; good.  
No. 3 Brown & Sharpe 26" full automatic, late model; very good condition.  
No. 13 Brown & Sharpe spur and bevel gear cutter; new.  
9x36 Gould & Eberhardt new type horizontal cutter slide, for spurs only.

#### LATHES AND TURRET MACHINES.

14"x 6' LeBlond, compound rest, taper attachment. (2).  
16"x8' Lodge & Shipley quick change gear lathe, 3-step cone, double belt  
feed; very good condition.  
24"x25" Pond, compound rest, loose change gears, with double tool rest and  
full equipment for shaft turning.  
No. 4 Bardons & Oliver turret lathe, pwr. fd., fric. hd.; very good condition.  
21" Gi-holt turret lathe, taper attachment, rapid traverse; very good condition.  
7"x14" Potter & Johnston automatic turret chucking machines; very good, (4).  
Gridley automatic piston and ring turning machine; very good.

#### LARGE BLOWER.

48x48"x14' Betts 3-head spur drive heavy type blower, with extension head  
for large work; very fine shape.

#### PRESSES.

No. 2-C Stiles plain punch press, 12" throat, 1½" stroke, 1½" adj. 24" fly-  
wheel; excellent condition.  
76½ Bliss straight side single crank, tie rod frame, double geared, friction  
clutch, 18" stroke, 12" die space, 7" shaft; good as new; 2500 lbs.  
77½ Bliss straight side single crank, tie rod frame, friction clutch, 10" stroke,  
17" die space, 8" shaft; good as new; 3500 lbs., (2).

#### MISCELLANEOUS.

Drill press, 2-spindle 8" cap. Henry & Wright, ball bearing; fine condition.  
Straddle milling machine, Beaman & Smith, 72" between housing, table slides  
18" wide, 32" long; designed for milling bearing faces in crank cases and  
similar work; new machine.  
Triplex pumps, Gould hi-pressure, 2½" cylinders, 32 gal. capacity, 2000 lbs.  
pressure, No. 907; good as new, (3).

## SECOND-HAND MACHINERY

### FOR SALE BY

**The Motch & Merryweather Machinery Company,**  
**711 Lakeside Av., N. W. Cleveland, Ohio**

#### AUTOMATICS.

2' Cleveland.  
 No. 72 National Acme.  
 No. 52 National Acme.

No. 33 New Britain, chucking.  
 No. 23 New Britain, chucking.  
 No. 22 New Britain, chucking.

#### BROACHING MACHINES.

No. 2 Lapointe.

No. 3 Lapointe.

#### BORING MILLS.

72" Niles 4-wheel boring mill.

32" Warner & S. turret hd. vertical.

#### DRILLING MACHINES.

10' Burke sensitive.  
 5' Fosdick & Hollaway.  
 48" Betts upright.  
 26" Hoefcr upright.

15" Barnes.  
 4-spindle 26" Hoefcr gang.  
 2-spindle No. 2 Avey.  
 No. 24 Foote-Burt.

#### GEAR CUTTERS.

36"x9" Gould & Eberhardt.  
 36"x9½" Whiton.  
 36" Fellows.

6" Gleason bevel gear planer.  
 No. 1 Standard pinion machine.

#### GRINDERS.

No. 210 Heald wet grinder.  
 No. 12 Gardner, duplex.  
 No. 2½ Bath, universal.  
 No. 2 Brown & Sharpe, universal.  
 No. 1 Cincinnati, cutter.  
 6"x18" Landis.

6" x22" Norton.  
 10"x50" Norton.  
 10"x30" Landis.  
 24" double wet tool.  
 20x1½ single wet tool.  
 Woods, cutter and tool.

#### HAMMERS.

35 lb. W. & W., power tire welding.

No. 3 Standard, 500 lb. belt drop.

#### KEYSEATERS.

No. 1 Davis.  
 No. 2 Mitts & Merrill.

18"x1½" Morton.

#### LATHES.

16"x 6' Lodge & Shipley, pt. hd.  
 16"x 6' Harrington.  
 18"x 8' Lodge & Shipley, three-step  
 cone, d. b. g.  
 18"x 8' Lodge & Shipley, pt. hd.  
 18"x 8' LeBlond.  
 18"x 8' Bradford.

18"x10' Monarch, q. c.  
 18"x12' Monarch, q. c.  
 20"x 8' Bradford.  
 20"x10' Reed.  
 22"x10' Reed.  
 30"x14' Lodge & Shipley.

#### MILLING MACHINES.

No. 1½ LeBlond plain.  
 No. 7-H Becker, Lincoln type.

No. 8 Pratt & Whitney, hand.  
 Hendey, Lincoln type.

#### PLANERS.

24"x24"x 6' Niles, one head.  
 30"x30"x 8' Pond, one head.

26"x26"x 6' Pond.

#### PIPE MACHINES.

12" Curtis & Curtia.

#### PRESSES.

No. 2 Consolidated plain inclinable.

No. 5 Stiles & Parker blanking press.

#### SAWS.

Gust Wagner 12" cold saw.  
 6" Atkins "Kwick-Kut."

7" high duty Paragon.

#### SCREW MACHINES.

2½" J. & L.  
 3" Foster.

4½" Bardons & Oliver.

#### SHAPERS.

36" Hendey, traverse, s. head.

24" Cincinnati.

#### TURRET LATHES.

No. 4 Bardons & Oliver.  
 21" Gisholt.  
 23" Libbey.

24" Gisholt.  
 16" Bardons & Oliver.

#### MISCELLANEOUS.

Belt strapping mch., Builders Fdry. Variable spd. c. s., Reeves, small.

## SECOND-HAND MACHINERY

### FOR SALE BY

#### The O'Brien Machinery Co.,

Boring mill, vert., 74" Poole, 2 hds.  
Grinder, 10"x30" Norton plain.  
Grinder, Gisholt, cutter.  
Hammer, 1,000 Farrell-F., bd. drop.  
Lathe, 16"x6" Cincinnati.  
Lathe, 16"x9" Lehman.  
Lathe, 18"x8" Cincinnati.  
Lathe, 21"x14" New Haven.  
Lathe, 24"x12" Fitchburg.  
Planer, 24"x24"x8" Sellers.  
Planer, 30"x30"x8" York.  
Presses, ft. pwr., about 30 assorted.

#### 119 N. Third St., Philadelphia, Pa.

Press, DD-66 Ferracute straight col.  
double action drawing.  
Screw machine, 1" Cleveland auto.  
Screw machine, 1 1/2" Cleveland auto.  
Screw machine, 2" Cleveland auto.  
Screw machines, 2 1/2" Cleveland auto-  
matic, (2).  
Shaper, 20" Smith & Mills.  
Shaper, 20" Leisy Patton.  
Slotter, hvy. duty vert., 8 1/2" Betts, new.  
Spinning lathe, No. 5 Bliss auto.,  
22" swing.

### FOR SALE BY

#### Peninsular Machinery Co.,

Drill, 3 Fosdick radial.  
Drill, 10" sensitive.  
Forming roll, 3"x48".  
Grinder, cutter, No. 1 LeBlond univ.  
Grinder, emery, No. 0 Blount.  
Grinder, emery, No. 1 Blount.  
Grinder, emery, No. 3 Blount.  
Grinder, twist drill, 1/2" to 2 1/2".  
Lathe, 16"x 6" LeBlond, engine.  
Lathe, 16"x 8" LeBlond, eng., taper.  
Lathe, 14"x 8" LeBlond, eng., taper.  
Lathe, 17"x10" LeBlond, automobile.  
Lathe, 20"x10" LeBlond, engine.

#### 110 Beaubien St., Detroit, Mich.

Lathe, 17"x 6" LeBlond, rap. produc.  
Lathe, 24"x10" LeBlond, engine.  
Lathe, 12"x 6" Prentice, eng., gd. hd.  
Miller, No. 1 U. S., hand.  
Miller, No. 1 Van Norman, hand.  
Press, No. 0 Atlas, arbor.  
Press, No. 1 Atlas, arbor.  
Press, No. 2 Atlas, arbor.  
Shaper, 16" Rockford, b. gd. crank.  
Shaper, 16" Barker plain.  
Shaper, 16" Walcott, crank.  
Shaper, 20" Walcott, crank.

### FOR SALE BY

#### E. L. Easley Machinery Co., 551-557 Washington Blvd., Chicago, Ill.

##### DRILL PRESSES.

No. 1 Avey high speed ball bearing,  
drill on column, fine shape.  
No. 1 three spindle Avey.  
1 spindle H. & W. high-speed.

34" W. F. & John Barnes.  
34" Prentice Bros. plain radial.  
36" Bickford plain radial.  
3' Dreses plain radial.

##### GRINDERS.

No. 2 Cincinnati, universal.  
No. 1 Norton full univ. tool & cutter.  
14"x50" Norton plain.

9"x20" No. 2 Bath univ. grinder.  
4"x30" P. & W. sizing grinder.  
12"x32" Landis plain grinder.

##### LATHES.

60" gap turret lathe.  
16"x2" Prentice Bros. taper att.  
18"x8" Shumacher & Boye, q. c. g.

14"x 6" Lodge & Shipley, q. c. g.  
14"x6" Porter.  
9"x 4" Star.

##### SCREW MACHINES.

1/2" Cleveland automatics, (2).  
1 1/2"x9" Acme, friction head.  
No. 6 W. & S. 2 1/2" cap., fric. head.  
No. 1 Foster, plain head, cap. 13-16".

No. 22 1/2" Garvin 1 7-16" cap., fric. hd.  
1/2" Foster-Kimball, plain head.  
1/2" Smurr & Kamen, plain head.

##### MISCELLANEOUS.

Boring mills, 34" Colburn, (2).  
Boring mill, 84" Bickford.  
Center chucks for ball case grinder.  
Filer, No. 2 Cochrane-Bly.  
Gear cutter, No. 12 B. & S. auto.  
Hand wheel turning attachment.  
Miller, univ., No. 14 Brainard.  
Pipe machine, 3" Stover.  
Planer, 24"x24" x8" New Haven.

Planer, 40"x40"x10" P. & W.  
Polisher, No. 4 Diamond, motor  
driven, 230 v., d. c.  
Shaper, crank, 16" Barker.  
Shaper, 24" Cincinnati, back geared.  
Turret lathe, 24"x24" W. & S.  
Turret lathe, 24" Steidle.  
Valve millers, for brass.



## SECOND-HAND MACHINERY

### FOR SALE BY

Machine Tool & Supply Co.,

Davenport, Iowa.

#### DRILLING MACHINES.

20" Milwaukee drill presses, (8).  
20" all-gear drill presses, (3).  
25" Cleveland, power feed.  
25" Snyder, power feed to head.

30" Snyder, power feed to head, (2).  
32" Cleveland, tapping attachment.  
Radial drills, (2).

#### LATHES AND PLANER.

13" lathes, (3).  
15" lathes, (6).

18" lathes, hvy. duty, qk. chg., (4).  
24"x24"x6" Ohio planer, like new.

Furnace, forge, electric motors, wood-working machinery, big stock of grinders, several second-hand lathes and drill presses.

### FOR SALE BY

The Strong, Carlisle & Hammond Co., Cleveland, O., Detroit, Mich.

#### ENGINE LATHES.

30"x6" New Haven, comp. rest.  
22"x8" Flather, c. r., standard.  
8" Hardinge Bros. precision lathe.

16"x8" Perkins, p. r.  
16"x6" Lodge & Shipley, comp. rest.  
24"x10" Schumacher & Boye, q. c.

#### TURRET LATHES.

18" Lodge & Davis, gear feed head, automatic chuck.  
14" Lodge & Davis, plain head.  
21" Gisholt, belt driven, t. a.

No. 1 Warner & S. hol. hex. turret.  
24" Davis turret boring & chucking lathe, with vertical forming attachment.

#### DRILLING MACHINES.

13" Knight drilling & milling, circular milling attachment.  
12" Rockford upright.  
26" Prentice Bros. standard sl. hd.  
22" sliding head, w. & l. feed.  
10-sp. Quint turret drill.  
5-sp. Detroit, semi-automatic.  
6-sp. Woodward & Rogers, sensitive.

4-sp. Garvin, sensitive.  
60" Alfred Box plain radial.  
No. 175-5' arm Cincinnati-Bickford wall type plain radial.  
14" Taylor & F. upright sensitive.  
3' American hi-spd. sen. radial, (2).  
2' Gang plain radial, universal table, cone drive, tapping att.

#### SCREW MACHINES.

2" Cleveland full automatic.  
No. 00 Brown & Sharpe automatic.  
1" Hartford full automatic.  
2" Hartford full automatic.  
No. 52 four-spindle National Acme.  
No. 53 four-spindle National Acme.  
No. 54 four-spindle National Acme.

No. 22 New Britain multiple spindle automatic.  
No. 23 New Britain multiple spindle automatic, (2).  
No. 33 New Britain multiple spindle automatic, (2).

#### MILLING MACHINES.

Special horizontal slab miller, 66"x45" movable heads.

#### PLANERS.

27"x24"x 7' New Haven.

30"x30"x10' Cincinnati.

#### GRINDERS.

Gisholt tool grinder.  
Warner & Swasey cock grinder.  
20" Whitney wet grinder.  
Type "DE" Hisey-Wolf internal.

Greenfield univ. cutter & reamer, (2).  
Wells bench cutter and reamer.  
No. 60 Heald cylinder grinder.

#### HAMMERS.

Coffman, post, power dr., 25 lbs., c. s.  
100 lb. Cady, belt drop, c. s.  
25 lb. Bradley, upright helve.

400 lb.-4 poppet Etna Machine Co. rope drop hammer.

#### RIVETERS.

1" Shuster, elastic rotary blow.  
1/16" Adt, elastic rotary blow.

11 1/2" throat Giant rivet spinning machine.

#### GEAR CUTTERS.

No. 2 Whiton automatic.

#### MISCELLANEOUS.

Bolt cutters, 1" Wells, h. & p., solid sp., and 1 1/2" Wells, solid die, sgl.  
Keyseater, Morton, draw stroke.

Keyseater, Mitts & Merrill, square frame.

## SECOND-HAND MACHINERY

### FOR SALE BY

**E. B. Stickley,**

**Goebel Building, Detroit, Mich.**

Gear shaper, No. 6 Fellows, 36" capacity.  
Grinder, surface, planer type, 12"x12"x48" Springfield.  
Grinder, piston ring, Walker, 12" magnetic chuck, new.  
Screw machine, No. 7 Bardons & Oliver, 2" capacity.  
Screw machine, automatic, No. 56 National Acme multiple spindle, 2 1/2" capacity, arranged for motor drive, new.  
Turret lathe, 21" Gisholt, rapid traverse to turret.  
Turret lathe, 24" Gisholt, rapid traverse to turret.

### FOR SALE BY

**Herman L. Winterer,**

**808-910 Beach St., Philadelphia, Pa.**

#### LATHES.

38"x14' Fifeild.	20"x 8' Flather, c. r.
31"x16' Fifeild.	20"x 8' Putnam.
29"x18'6" Schumacher & Boye.	20"x 8' Perkins.
38"x10' Pittsburgh, d. b. g.	19 1/2"x10' Fitchburg, b. g., (2).
22"x10' Johnson.	18"x12' New Haven, b. g.
21"x28' LeBlond dbl. combination.	18"x10' Davis.
21"x14' Blaisdell, b. g.	18"x 6' Lodge & Davis.
21"x10' Lodge & Davis, c. r.	

#### TURRET LATHES.

7"x14" Potter & J., semi-automatic.	27" chucking.
3"x28" Lodge & S., chucking.	

#### MISCELLANEOUS.

Boring mill, hor., 48" Beaman & S.	Hydraulic forcing press, 135 ton.
Cold saw, 20" Newton.	Keyseater, No. 2 Davis.
Drill presses, all sizes.	Planers, 20 to 24" with 6 & 8' beds, (6).
Hammer, 300 lbs. Mossberg & Granville.	Roll grinder, 10"x36".
	Shaper, 24" Lodge & Davis.

Large assortment of Boilermakers' and General Machinery.  
Send for complete list.

### FOR SALE BY

**Niles-Bement-Pond Company,**

**111 Broadway, New York**

**Located at Chicago, Boston and New York**

#### LATHES.

12"x 8' speed lathe.	36"x17' Pond, trip, geared., q. c.
15"x 7' speed lathe.	No. 2 Bement double axle lathe.
16"x 8' VonWyck, quick change.	42" Niles double car wheel lathe.
32"x12' Pond, 220 v., d. c. motor dr.	

#### TURRET AND SCREW MACHINES.

3" four-spindle old style Acme automatic screw machine.
1" Style "B" Spencer single turret automatic screw machine.
2"x26" Pratt & Whitney turret lathe.

#### DRILLING MACHINES.

12" friction, sensitive.	No. 12 P. & W. multiple drill, square head, 10 spindles.
60" Niles, gooseneck.	No. 13 Pratt & Whitney multiple, 1 1/2" capacity, 12 spindles.
3" Grant combined radial drill and boring machine.	No. 10 Pratt & Whitney multiple, 1 1/2" capacity, 10 spindles.
3 1/2" Bement, plain radial.	
Prentice portable radial.	
Four-spindle gang drill.	

#### MISCELLANEOUS.

Boring mch., horiz., Kelly, 2" spdl.	Punch & shear, double, Huntington, cap. 1 1/2" in 1 1/2", with 18" and 24" throats, arr. for motor drive.
Gear cutter, 36" No. 3 Newark.	Saw sharpener, Espen-Lucas.
File sharpener, American.	
Punch, single, Perkins, cap. 1 1/2" in 1 1/2", 7" throat.	

## SECOND-HAND MACHINERY

### FOR SALE BY

**Frank Toomey, Inc.,**

**127-131 N. Third St., Philadelphia, Pa.**

#### LATHES.

28"x13' Harrington.  
24"x10' new Carroll-Jamieson.  
22"x12' Reed, blocked to 29".  
20"x10' Bullard, t. a.  
20"x10' Blaisdell.  
20"x10' Hamilton.  
19"x 8' new Sidney, d. b. g., q. c. g.,  
swing 21" over shears, (4).  
18"x 8' Springfield.

17"x8' new Sidney, d. b. g., q. c. g.,  
swing 19" over shears.  
17"x 8' new National, q. c. g.  
16"x10' Shepard gap, sw. 24" in gap.  
16"x 6' Reed.  
15"x 8' Carroll-Jamieson, new.  
14"x10' Prentice, t. a.  
13"x7' 6" Carroll-Jamieson, new.  
13"x5' 6" Carroll-Jamieson, new.

#### SCREW MACHINES.

2" Cleveland automatic.  
24" Gisholt, motor driven.  
14"x5' Lodge & Shipley, wire feed.

14"x5' Warner & Swasey, Fox.  
No. 2 Garvin.  
P. & W., hand.

#### MISCELLANEOUS.

Drill, D-4 Colburn high duty.  
Drills, 20" Rockford, high duty, (3).  
Drill, 20" Superior, new.  
Drill, 25" Superior, slid. hd., new.  
Drill, 28" Superior, slid. hd., new.  
Gear cutters, 8" Dwight, (4).  
Grinder, universal, No. 3 B. & S.  
Grinder, universal, 10"x20" Bath.  
Grinder, universal, 10"x36" Landis.  
Hammer, 400 lb. steam, sgl. frame.  
Hammers, belt, 250 lb. L. Giant, new.

Hammer, belt, 100 lb. L. Giant, new.  
Hammer, belt, 50 lb. L. Giant, new.  
Miller, plain, No. 1 American, new.  
Miller, hand, No. 0 Steptoe, new.  
Pipe machine, 8" Saunders.  
Pipe machine, 4" Saunders.  
Planer, 36"x36"x8" Pond, 2 hds.  
Planer, 24"x24"x6" Powell.  
Shaper, 15" Bement, traveling head.  
Shaper, 16" new steptoe.  
Shaper, 20" Hendey.

### FOR SALE BY

**Federal Machinery Sales Co.,**

**8 N. Jefferson St., Chicago, Ill.**

#### DRILLING MACHINES.

20" Silver upright drills, wheel and lever and power feed, (15).  
32" Mechanics sliding head drill, back geared, power feed.  
Foote-Burt heavy duty drill, 20" swing, s. p. gear-box drive.  
2-spindle 20" Barnes, back geared, power feed.  
2-spindle Dwight Slate sensitive.  
4-spindle Barr sensitive.

#### GEAR CUTTER AND GEAR HOBBER.

22"x5"x6 pitch Gould & Eberhardt, spur and bevel.  
24" Whiton, spur gears only.

#### GRINDERS.

16"x66" Landis crank grinder.  
12"x36" Cincinnati plain grinder.  
No. 2 American automatic surface grinder.  
No. 2 Oakley universal cutter and tool grinder.

#### LATHES.

14"x8' Ryerson, h. s., c. r.  
16"x8' Lodge & Davis, h. s., c. r.  
24"x12' Schumacher & Boye, q. c. g.,  
c. r., h. s., 3-step cone, d. b. g.

#### MILLING MACHINES.

Newton 40"x11' duplex.  
No. 3 Aurora plain.

#### PRESSES.

American Can No. 5, o. b. i.

#### SCREW MACHINES.

8" Prentiss.

#### MISCELLANEOUS.

Bolt cutter, 18" National, single head.  
Cold saw, 3" Smith and Post.  
Riveter, 1/2" Schuster.  
Splitting shear, Rock River style D-14.  
Squaring shear, 5' Bertsch, 15" gap, foot power.

## SECOND-HAND MACHINERY.

### FOR SALE BY

**The Enterprise Machinery Co.,**

**28-30 S. Clinton St., Chicago, Ill.**

Boring mill, cyl., Hofer 2-sp. \$1400.  
Boring mill, hor., 2 hds. 450.  
Brake, 10' Ohl, 14 ga. 1600.  
Cold saw, Atlantic, 24" auto. gr. 275.  
Drill, 2 sp., 3" cap. 60.  
Drill, 22" b. g., p. f., Hamilton 150.  
Drill, Gardam 8-sp. 575.  
Drill, 28" b. g. Blaisdell. 100.  
Drill, radial, 14', 1 1/2" cap. 200.  
Furnace, gas, 6'x2'-6". 175.  
Grinder, edge, 12', like new. 500.  
Lathe, tur., Blaisdell, 16"x8' ck. 200.  
Lathe, Barnes, 12"x5', ck. 75.  
Lathe, 20-25"x10' out rest. p. c. f. 400.

Lathe, Rahn 18"x6', ck., c. r. \$ 450.  
Lathe, speed, slide rest, small, 25.  
Miller, Merritt, div. hd., hvy. 450.  
Planer, New H., 20"x4', vise. 250.  
Press, kick, on stand. 19.  
Press, pwr., new, 4" in 1-16" 60.  
Press, hyd., 12' long for brake, 150.  
Punch press, s. b. 34" fly, heavy 350.  
Screw machine, w. f., 3" 75.  
Scr. mch., Acme No. 53, 4-sp. 1" 1400.  
Scr. mch., W. & S. 1 1/2" \$250. tools 825.  
Shaper, Gould, crank, 10" 125.  
Shear, sq., 30" gap and 36" 38.  
500 other tools. Write us.

### FOR SALE BY

**Neidow & Payson Co.,**

**9 So. Clinton St., Chicago, Ill.**

Automatics, 8" to 2".  
Boring and turning mills, 41" to 100".  
Drills, multiple spindle and sensitive.  
Grinders, plain, universal and cutter.  
Grinder, Pratt & Whitney vertical.  
Hammers, steam, 400 to 1500 lbs.  
Lathes, 9" to 90" swing.  
Lathes, 2" Jones & Lamson.  
Planers, 24" to 72" wide.  
Rigid turret lathe, 21" Pond.  
Side Milling Cutters, inserted High Speed Steel Cutters. These Cutters

have been used, but are in good condition. Cutters similar to No. 307 P. & W. catalogue, page 106:—

Diam.	Face.	Hole.
4—5"	1 1/4"	1 1/4"
1—5 1/4"	1"	1"
8—6"	1"	1 1/4"

End Milling Cutters, inserted High Speed Steel Cutters. Similar to cutter shown on Brown & Sharpe catalogue, page No. 274:—

Diam.	Face.	Hole.
4—9"	1 1/2"	4"
4—12"	3"	2 1/2"

### FOR SALE BY

**Dale-Brewster Machinery Co., Inc.,**

**547 W. Washington Blvd., Chicago**

**30 Church St., New York**

#### LATHES.

18"x10' Cisco, d. b. g., q. c. g.  
14"x 6' Davis, with q. c. g.  
16"x 6' Monarch, d. b. g., q. c. g.

#### SHAPERS.

20" Davis, with power down feed.  
14" Davis, with regular equipment.

#### MILLING MACHINES.

No. 3 Kempsmith universal.

#### DRILLING MACHINES.

D-4 Colburn, used.

D-3 Colburn, used.

D-1 Colburn, used.

14' Heckmann sensitive.

#### MISCELLANEOUS.

Boring mill, 62" Colburn vertical.  
Cutter relieving mch., Cleveland.  
Drill, 12-spdl. Baush multiple.  
Hammer, steam, 3500 lb. Chambersburg.

U. S. No. 1 hand millers.

Pawling & Harnischfeger No. 52 heavy duty vertical.

24" Barnes all geared upright.

20" power drills, b. g., p. f.

Hammer, st., 5000 lb. Chambersb'g.

Profile grinder, Cleveland.

Screw mch., No. 0 B. & S. auto.

Trimming press, No. 7 Am. Can.

Trimming press, No. 53 Toledo.

If interested, write us for particulars.

## SECOND-HAND MACHINERY

### FOR SALE BY

**G. L. Bennett Machinery Co., Inc., 30 Church St., New York City**

Angle cutter, Scotts hydraulic, 6"x6" capacity.  
 Bolt header, hex. and square heads, 3" Pawtucket.  
 Drill, 6 spindle multiple, No. 2 Baker Bros.  
 Drill, 32 spindle multiple, Moline.  
 Drills, upright, 36" and 42" Gould & Eberhardt, heavy.  
 Engine lathe, 18"x16" Flather, quick change gear, chuck.  
 Engine lathe, 26"x16" Fifield, blocks to 36".  
 Engine lathe, 48"x16" New Haven, light pattern.  
 Lathes, turret, Warner & Swasey, Bullard and Potter & Johnston.  
 Lathe, 92"x26" Union Iron Works, triple geared.  
 Milling machine, Brainard double end, insert cutters.  
 Milling machine, vertical, No. 2 Hillis & Jones, rev. table.  
 Pipe machines, 4" and 8" Saunders, also E. C. & B.  
 Screw machine, No. 2 Garvin, 1 5-16" w. f. capacity.  
 Shear, bevel plate, No. 2 Thompson, 1" plate.

### FOR SALE BY

**The Osborne & Sexton Machinery Co.,**

**Columbus, Ohio.**

#### LATHES,

9" to 13" Barnes, comp. rest, new.  
 13-15-16 and 18 O. & S., h.s., c.r., new.  
 14"x 6" Hamilton, h. s., comp. rest.  
 15"x 6" Bradford, power feed turret.  
 15"x 6" Fox universal lathe.  
 16"x 6" Greaves & K., h. s., c. r.  
 18"x 6" Mueller, turret on shears.  
 18"x 8" Prentice, geared head.  
 18"x 8" Hamilton, dbl. bk. gr., new.  
 20"x 8" Prentice, geared head, (2).  
 20"x 8" American, geared head.  
 22"x10" Hamilton, dbl. bk. gr., new.  
 24"x12" South Bend, h. s., cp. r.  
 26"x10" Prentice, geared head.  
 30"x12" Fitchburg, comp. rest.  
 54"x18" Pond, old style.

#### SHAPERS AND PLANERS.

16" Steptoe, bk. grd. crank.  
 20" Smith & Mills, triple geared.  
 16, 18 & 24 Barker, crank, new.  
 20"x20"x 4" Industrial.  
 24"x24"x 6" Sellers.  
 44"x44"x10" Pond, 2 heads.

#### HAMMERS.

1,200 lb., steam, single leg.  
 300 lb. Bliss, friction board drop.  
 150 lb. Bliss, drop.  
 50 lb. Bradley, compact.

#### PRESSES.

No. 1 Hibbard o. b. l., nearly new.  
 Perkins, dbl. housing, 16x24.  
 3 1/2 Bliss drawing press, 8500 lbs.  
 355 Bliss, toggle drawing, 42,000 lbs.  
 Hydraulic, 37" bet. uprights.  
 500-ton hydraulic, with pump.

#### DRILLS AND RADIALS.

Henry & Wright sgl. spdl., high spd.  
 Avey 3 spindle, high speed.  
 3 1/2 Cannedy-Otto radial, plain, new.  
 5" Plain radial, Baush.  
 Flexible shaft, 1/2" hole, (2).  
 Sensitive 1, 2 & 3 spindle.  
 Sliding head 24", 26" and 28".  
 Quint 6-hole turret.

#### GRINDERS AND MILLERS.

16x48 Ingersol, slab.  
 No. 3 Kemp Smith, with dividing hd.  
 No. 1 1/2 Valley City universal, new.  
 Hartford 8"x36" surface gdr., new.  
 Surface, No. 1 Wilmarth & Morman.  
 Landis 10"x20" universal.  
 Landis, 12"x32" plain.  
 No. 1 1/2 Valley City, plain, new.  
 Cincinnati plain, 24"x7"x19".  
 Garvin, hand and power, 15" travel.

#### TURRET LATHES AND SCREW MACHINES.

1" Garvin hand screw machine.  
 1 1/2" Wood hand screw machine.  
 2x24 J. & L., bar equipment, (2).  
 20x8 Lodge & Davis, pr. fd. turret.  
 21" Gisholt turret.  
 24" Gisholt turret.

#### MISCELLANEOUS.

Band saws, metal, 30" Wright, (2).  
 Borer, 42" car wheel, with hoist.  
 Boring mill, 42" Baush vertical.  
 Cold saw, 8" Higley.  
 Crane, 10-ton 30" Toledo electric,  
 220 v., d. c.  
 Crane, 10-ton hand hoist, 32' span.  
 Cut-off machine, 3" Davis.  
 Keyseater, Baker Bros. 1 1/2" keyways.  
 Motors, 1 to 50 h. p., 220 v., 3 phase.  
 Punch and shear, No. 6 Long &  
 Allstatter, 3".  
 Squaring shear, 30 & 36", 20 gauge.  
 Tappers, Garvin and P. & W.

## SECOND-HAND MACHINERY

### FOR SALE BY

**The Cincinnati Ball Crank Co.,**

**Oakley, Cincinnati, Ohio**

Butt welder, Toledo type 6.  
Cyclodial fan, 20", inlet 10", outlet 10".  
Screw machine, single spindle automatic, 24" Gridley, motor driven.  
Swaging machine, hot, No. 7 Langelier.

### FOR SALE BY

**The Machine Tool Sales Co.,**

**Pittsburgh, Penna.**

<b>AUTOMATICS.</b>	
No. 2 Brown & Sharpe.	14" Cleveland.
<b>BORING MILLS.</b>	
51" Niles, motor drive.	42" Bullard, 2 heads.
No. 1 Barret, 3 1/2" bar.	60" Betts horizontal.
<b>DRILLING MACHINES.</b>	
Natco multiple, eight 1 1/2" drills and 16" circular head.	No. 3 Baker, two spindles.
	No. 416 Baker, single spindle.
<b>GRINDERS.</b>	
No. 14 Brown & Sharpe.	10x50 Norton.
<b>GEAR CUTTERS.</b>	
No. 13 Brown & Sharpe.	36" G. & E., spur & bevel.
<b>LATHES.</b>	
24"x20" Lodge & Shipley.	36"x18" Wickes.
42"x22" Wickes.	18" Libbey turret lathe.
<b>PLANERS.</b>	
48"x16" Gray, 4 heads.	52"x16" Putnam, 3 heads.
<b>MISCELLANEOUS.</b>	
Bending roll, 6' H. & J.	Bulldozer, 2 1/2" Ajax.
Bending roll, 8' H. & J.	Punch & shear, No. 4 Wickes.
Brake, 13' 6" power.	Punch & shear, No. 6 Wickes.

### FOR SALE BY

**Western Mchy. Co., —C. H. Norton— 112 W. 3rd St., Cincinnati, O.**

<b>MILLING MACHINES.</b>	
No. 2 Cincinnati plain, auto. feeds.	No. 12 Brainard universal, with dividing head.
No. 2 1/2 Cincinnati universal, with dividing head.	
<b>LATHES.</b>	
12"x4' & 5' bed, comp. r., (8), \$200.	17"x8' G. A. Gray, \$250.
14"x6' Lodge & Davis, \$250.	18"x8' LeBlond, \$475.
14"x6' Blaisdell, 3-step cone, taper, \$300.	20"x8' Bradford, \$650.
14"x6' Monarch, 3-step cone, double back gear, \$375.	20"x12' G. A. Gray, \$375.
16"x6' LeBlond, taper attach., \$425.	24"x12' Shepherd, q.c.g. & ck., \$650.
	24"x12' Steptoe, \$400.
	30"x16' Niles, \$1,300.
<b>DRILLS AND BORING MACHINES.</b>	
Barnes horizontal drilling machine (small).	Dumore Elect. drill on column, \$45.
One each 20, 24 & 40" upright drills.	U. S. Electric drill, 4", \$40.
4 1/2" Niles radial drill.	26" Brown & Sharpe pattern vertical boring machine (no rail).
<b>PLANERS AND SHAPERS.</b>	
24"x24"x6' Gray, one head, \$900.	36"x36"x12' Parshley, one hd., \$600.
26"x26"x6' Putnam, one head, \$350.	24" Hendey shift'g belt shaper, \$285.
28"x26"x10' Gray, two heads, \$2,300.	24" Walcott shift'g belt shaper, \$375.
<b>MISCELLANEOUS.</b>	
Chain blocks, cap. 1 1/2 to 5 tons, (20).	Press, inc., No. 2 Consolidated, \$225.
Cornice brake, 8' Keene, \$175.	Pump, 6"x4"x6", \$50.
Gas engine, 2 h. p., \$25.	Trolley, 5-ton I-beam, geared, \$50.
Gas engine, 5 h. p., \$60.	Turret lathe, 3"x36" Jones & Lamson, bar and chucking equipment.
Generator, 150 k.w., 250 v. West'gh'se.	Turret screw mchs., 1" and 2", (5).
Motor, 10 h. p. Triumph, 220 v., d.c.	

## SECOND-HAND MACHINERY

### FOR SALE BY

#### Clark Machinery Co.,

Blower, No. 8 Buffalo Forge Co.  
Blower, No. 1 Root, positive press.  
Centering machine, No. 1 P. & W.  
Drill press, sgl. spdl. ball bearing.  
Drill press, 4-spindle 20" Barnes automatic, all spindles power feed.  
Drill press, Baker Bros. heavy.  
Grinder, No. 3 Oesterlein univ., new.

#### 1302 Ontario Ave., Cleveland, O.

Lathe, 15"x8' Von Wyck.  
Lathe, 14"x6' Flather, c. r. & taper.  
Miller, double end valve.  
Miller, vertical, table 22"x54".  
Miller, Garvin, Lincoln type.  
Miller, Garvin hand miller.  
Miller, No. 32 Kemp Smith.  
Plating dynamos, 300, 450 amp., 5 v.

### WANTED BY

#### The Machine Tool Sales Co.,

#### Pittsburgh, Pa.

#### BORING MILLS.

10' vertical, 2 heads.  
42" vertical, 2 heads.

60" vertical, 2 heads.  
30" vertical, 1 head.

#### DRILLING MACHINES.

5' or 6' radials.  
Upright, 2 1/2" capacity.

3 spindle, rail type, to bore cylinders  
4" diameter x 16".

#### GRINDING MACHINES.

10x36 universal.

10x72" plain.

#### LATHES.

42"x12' d. b. geared.

60"x18' triple geared.

#### PLANERS.

30"x16', 2 heads.

60"x18', 4 heads.

#### MISCELLANEOUS.

Angle bending rolls, 6x6.  
Bending rolls, 6 to 15'.  
Bulldozers.  
Guillotine shears.  
Planer type millers.  
Plate planer, 30'.  
Presses, heavy.

Punch, 4"x12 to 48.  
Punch, 1 1/2" horizontal.  
Punch and shears.  
Rotary bevel shear, 1" plate.  
Slab millers.  
Steam hammers.  
Wheel press, 150 to 300 ton.

### FOR SALE BY

#### Wm. C. Johnson & Sons Machinery Co.,

1001-3-5 N. 6th St.,

St. Louis, Mo.

#### LATHES.

15"x 5' Prentice.  
14"x 6' Heudey, with t. a.  
16"x 8' American, q. c.  
16"x 6' Rahn & Carpenter.  
16"x 8' Bradford.

18"x 8' Forsaith.  
18" Fox Monitor.  
24"x12' Forsaith.  
32"x24' Fay & Scott.

#### DRILLING MACHINES.

20" Champion.

24" Aurora.

#### SHAPERS AND PLANERS.

14" Lodge & Davis crank.  
20" Lodge & Davis. geared.

24"x24"x 6' Lodge & Davis.  
36"x36"x10' Pond.

#### AIR COMPRESSORS.

6"x6" belted.  
10"x12" belted.

8"x8"x8" steam driven.  
12"x12"x12" steam driven.

#### HAMMERS.

25 lb. Bradley.  
40 lb. Bradley.

50 lb. Little Giant.  
130 lb. Justice.

#### MOTORS AND GENERATORS.

50 k. w. 125 volt generator.  
55 h. p. 300 volt motor.  
80 h. p. 500 volt motor.

150 k. w. 250 volt generator.  
17 1/2 k. w. 125 volt generator.

#### MISCELLANEOUS.

Grinder, plow share, No. 35.  
Hydraulic forming press, 20-ton.

Spot welder, 32".  
Stake punch, 32".

## SECOND-HAND MACHINERY

### FOR SALE BY

#### McMullen Machinery Co.,

Blower, No. 2 Garden City.  
Bolt cutter, 2" Acme, single head.  
Bolt cutter, 1 1/2" Reliance, sgl. head.  
Bolt cutter, 1" National, sgl. head.  
Drill, 3" Bickford radial.  
Drill, No. 2 Quint 6 sp. turret.  
Drill, No. 1 Avey 3 sp. sensitive.  
Drill, Henry & Wright 3 sp. sens.  
Furnace, No. 1 Stewart, oven.  
Grinder, No. 3 V. C., tool & surface.  
Hammer, 60 lb. Bradley helve.  
Hammers, Quickwork, (3).

#### Grand Rapids, Michigan

Lathe, 13"x5' Lancaster standard.  
Lathe, 14"x8' Prentice, standard.  
Lathe, 14"x8' Carroll-J., q. c. g.  
Lathe, 14"x8' Hendey, q. c. g.  
Lathe, 16"x8' Cincinnati, q. c. g.  
Lathe, 24"x24' Fifield, standard.  
Lathe, 30"x12' New Haven, standard.  
Miller, No. 1 B. & S., universal.  
Press, No. 36 Niagara, punch.  
Screw mch., 2 1/2" Oliver, hvy. duty.  
Screw machines, No. 3 Foster, (3).  
Screw machine, No. 2 Foster.

Send for complete list.

### FOR SALE BY

#### Badger-Packard Mch. Co., 133-139 W. Water St., Milwaukee, Wis.

##### LATHES.

11"x5' Star No. 30-P.  
12"x4 1/2' Martin Fox.  
12"x5' Le Blond, back geared.  
13"x7' Shepard.

16"x8' LeBlond, 4-st. cone, s. b. g.  
16"x8' Flather, 4-st. cone, o. b. g., q. c.  
20"x8' Walcott, single b. g.  
20"x10' Blaisdell, c. r., solid sp.

##### MISCELLANEOUS.

Drill, 26" Rockford, sta. hd., b. p. f.  
Grinder, 12x48 Modern.  
Grinder, double disc, No. 26 Besly.  
Grinder, wet tool, 24x27 Milwaukee.  
Grinder, cutter, Garvin.  
Hammer, drop, 100 lbs.  
Oven furnace, No. 1 Stewart, with blower.

Shaper, crank, 14" Steptoe.  
Pipe mch., No. 1 Merrill, complete with c. s., 1/2" to 2" capacity.  
Planer, 26"x25"x8' Pond, one head on cross rail.  
Shaper, 16" Potter & Johnston, motor driven.

### FOR SALE BY

#### Russell Machine Co.,

#### 28th St. and A. V. R. R., Pittsburgh, Pa.

##### BORING MILLS.

51" Niles, 2 head, operated by 7 1/2 h.p. Westinghouse motor.

48" Harrington vertical car wheel or pulley boring mill.

##### DRILL PRESSES.

20" Silver, new, w. & l., q. r.

Washburn 3-spindle sensitive.

20" Silver, new, back gear.

48" Niles, sliding head, b. g.

14" Woodward-Rogers bench drill.

20" Canedy-Otto post drill.

##### RADIAL DRILLS.

8' Foodick plain, box table.

36" Universal, box table.

##### LATHES.

14"x 6' Lodge & Shipley.

24"x22' Putnam.

17"x10' Perkins.

28"x17' New Haven.

22"x10' Pittsburgh Machine Tool.

32"x16' I. W. Johnson, t. g.

22"x12' New Haven.

39"x23' Fish, triple geared.

24"x12' New Haven.

48"x16' single back geared speed

24"x12' Lodge & Shipley.

lathes, various sizes.

##### SHAPERS AND PLANERS.

12", 15", 16", 22", 24", 26" shapers.

30"x 9' Sellers planer.

42"x36" Gray planer, 10' platen.

Pond 26"x26"x5' table.

##### MISCELLANEOUS.

Bending rolls, Wickes, cap. 14"x108".

Hammers, 25 and 100 lb. Bradley.

Cold saw, Gliem, 22" saw.

Pipe machine, No. 7-B Jarecki.

Crane, 10-ton P. & H., hand power.

Pipe machine, 2" Bignall & Keeler.

Grinder, Springfield.

Press, No. 140 Ferracute.

Grinders, emery, various types.

Punch, No. 24 Niagara.

Milling machines, universal No. 2

Punch & shear, No. 3-A Royersford.

B. & S., cone drive, A-1, (2).

Shear, alligator, Waterbury-Farrell.



## SECOND-HAND MACHINERY

### FOR SALE BY

**Wayne Machinery Co., Taylor St. & L. E. R. R., Fort Wayne, Ind.**

Bolt cutters, 3" Acme.  
Drills, 10" Barnes friction, (5).  
Drill, 14" Champion, geared.  
Drill, 20" Champion, p. f.  
Grinder, Gisholt universal tool.  
Grinder, auto cutter and reamer.  
Hammer, 25-lb. Mayer, upright.

Lathe, 14"x6' Flather engine.  
Lathe, 15"x5 1/2' No. 1 American, brass.  
Lathe, 16"x8' Greaves-Klusman.  
Riveter, No. 530 Prouty.  
Riveter, 4" Shuster.  
Shaper, 16" Hendey.  
Tire welder, No. 4 L. & A.

New tools for any requirement.

### FOR SALE BY

**Brownell Machinery Co.,**

**11-13 Eddy St., Providence, R. I.**

Boring mills, 24" Bullard vertical turret lathes, (2).  
Boring mill, ditto, with thread cutting attachment and lubricating system.  
Drills, 20", back gear, power feed upright, new, (10).  
Drills, 24" Sibley, adjust. hd., new, (7).  
Gear cutter, No. 13 B. & S. auto.  
Gear cutter, 30" old-style Brainerd.  
Gear generators, 12" Gleason, single tool, (2).

Grinder, 5"x48" Pratt & Whitney.  
Grinder, No. 2 Bath universal.  
Grinder, No. 103 Rivett internal, new.  
Lathe, 16"x5 1/2' Reed, r. and f.  
Lathes, 16"x6' Reed, r. and f., (3).  
Lathe, 16"x7' Oliver, new.  
Lathe, 18"x8' Porter.  
Lathes, 18"x8' Davis, d. b. g., (3).  
Lathe, 18"x10' Rahn-Larmon, new.  
Milling machines, Reed, plain, (2).  
Milling machines, vertical, No. 4-B Becker, new, (2).

### FOR SALE BY

**Girard Machine & Tool Co., 491-493 N. Third St., Philadelphia, Pa.**

#### LATHES.

14"x 5' Fitchburg, p. c. g.  
16"x10' Flather, with taper, q. c., (2).  
17"x 8' Johnson, p. c. g., (2).  
17"x 8' Sidney, d. b. g. & q. c., (10).  
18"x 8' Milwaukee, sgl. bk. gr., (9).  
18"x10' Superior, d. b. g. & q. c., (10).

18"x10' Milwaukee, sgl. bk. gr., (3).  
18"x10' Flather, q. c.  
20"x 8' Flather, q. c.  
24"x 8' Harrington, sgl. bk. gr.  
22"x 8' Harrington, sgl. bk. gr.  
28"x16' Fay & Scott, h. s.

#### SCREW MACHINES AND TURRET LATHES.

No. 1 Bardons & Oliver.  
No. 2 Bardons & Oliver.  
No. 2 Garvin.  
No. 4 Foster, (4).  
No. 3 Garvin, b. g. & friction head.  
No. 2 1/2 Garvin, b. g., friction head.

No. 3 P. & W., b. g., friction head.  
2x24 J. & L., cone drive, bar equip.  
3x36 Jones & Lamson.  
15" Dreses turret.  
24" Davis chucking lathes, (3).  
Potter & J. auto. chucking, (5).

#### MILLING MACHINES.

No. 7 Becker-Brainerd, plain.  
No. 12 Brown & Sharpe, plain.

Wisconsin hand millers, (6).  
B. & S. 36" boring mills, tur. hd., (2).

#### MISCELLANEOUS.

Cold cutting-off saws, capacities 4", 5" and 6" round.  
Dynamo, 17 k. w. Diehl.

Gear cutters, 36" Whiton and 36" Gould.

Hammers, cushioned helve, 250 and 25 lbs.

Lathe bed turret, heavy, for about 32" lathe.

Pipe cutting and threading machines, 4" and 6".

Planers, 40" x40" x12' New Haven, with 1 head, 17"x17"x3' Draper, with 1 hd.

Planer, 24"x24"x6' New Haven, one head.

Pneumatic portable riveter.

Saws, Atkins "Kwik Kut", (3).

Slab miller, 19 1/2"x8' Beaman & Smith, with two horizontal spindles.

Stamping and punching presses, a large number of the open back inclinable.

Melting furnaces, metal band saws, drill presses, grinders, several assorted sizes sensitive drill presses, etc.

# Second Hand Machine Tools

## BORING MACHINES

30" Bullard vertical, geared feed.  
Bement horizontal, 2½" bar.

## DRILLS

20" Prentice Bros. lever feed.  
Four spindle Barr sensitive.

## ENGINE LATHES

13"x 6' Fay & Scott, compound rest, power cross feed.  
14"x 6' Blaisdell, rise and fall rest.  
20"x 8' Blaisdell, plain rest.  
24"x 6' Plamondon back geared pulley lathe.  
24"x 12' Reed, compound rest, four step cone, solid spindle.  
36"x 8' Putnam pulley turning lathe, double plain rest.

## MILLING MACHINES

No. 2 American, plain, excellent condition.  
No. 3 Cincinnati, plain, cone type, good condition.  
5" Thread Miller, Milled Screw & Machine Co. make.

## PLANERS

24"x24"x 6' Lodge & Davis.  
24"x24"x 6' Pond.  
38"x38"x10' New Haven.  
60"x60"x20' Sellers, two heads.

## TURRET LATHES and SCREW MACHINES

2"x24" Jones & Lamson, cone head, roller feed, excellent condition, reasonable price.  
5½" Gates hand screw machine.  
1½" Gray turret lathe.  
3½" Cleveland automatic.  
3½" Hartford automatic.  
1½" Hartford automatic.

## SHAPERS

10" Fitchburg, traveling head.  
16" Hendey friction, with vise and countershaft.  
16" Juengst, plain crank.

## MISCELLANEOUS

Betts Cutting-off Machine, 2½", with countershaft.  
18"x4" Brainerd Spur Gear Cutter.  
No. 300 Safety Emery Wheel Co. Plow Jointer.  
No. 12 Lennox Hand Punch, 12" throat.  
Burke 12" Cold Saw.  
Millers Falls Hack Saw.  
No. 1 Lindahl iron table Saw Bench, with saw.

*Write for complete descriptions.*

## Marshall & Huschart Machinery Co.

17 S. Jefferson St.  
CHICAGO, ILL.

915 Chemical Bldg.  
ST. LOUIS, MO.

# ReMANUFACTURED - (ORIGINATED BY US) - MACHINE TOOLS

FOR QUICK SHIPMENT

*At Chicago—The Great Machinery Center*

## TURRET MACHINES.—Latest Models.

- 14—21" Gisholts, 3½" hole, 2-step, 5' belt.
- 25—21" Gisholts, 3½" hole, motor arrangement.
- 11—24" Gisholts, 4¼" hole, 3-step, 4' belt.
- 2—2¼"x26" Greenlee Flat Turrets.
- 1—2½"x26" Pratt & Whitney geared head turrets.
- 3—3-A Warner & Swasey (bar machines).

## ENGINE LATHES.—Latest Models.

- 24—22"x 8' Hamilton, d. b. g., c. r., semi-q. c.
- 5—22"x 8' Hamilton, d. b. g., turret tool post.
- 4—22"x 8' Davenport, d. b. g., turret tool post.
- 6—22"x10' Hamilton, d. b. g., c. r., semi-q. c. g.
- 2—22"x10' Hamilton, d. b. g., turret tool post, semi-q. c. g.
- 20—22"x10' Davis, d. b. g., c. r., q. c. g.
- 2—24"x10' Lodge & Shipley, d. b. g., c. r., q. c. g.
- 6—24"x10' Lodge & Shipley, selective geared head, c. r., q. c. g.
- 11—26"x10' American, d. b. g., c. r., and carriage turret, q. c. g.
- 2—26"x10' American, d. b. g., carriage turret.
- 19—26"x12' Putnam, carriage turret, semi-q. c.
- 9—26"x12' Putnam, c. r., semi-q. c.
- 2—26"x12' Wickes, d. b. g., c. r., semi-q. c. g.
- 10—28"x10' Niles-Bement-Pond, d. b. g., q. c. g.
- 4—28"x14' Lodge & S., select grd. hd., motor dr., c. r., tur. and taper.
- 3—30"x16' Lodge & Shipley, d. b. g., c. r., turret and taper.
- 9—40"x16' Pittsburgh, triple geared, q. c. g.

## RADIAL DRILLS.

- 2—2½' Fosdick.
- 2—2½' Mueller.
- 1—3' Prentice.
- 1—3' Mueller.
- 1—3½' Gang.
- 1—4' Niles Full Universal.
- 1—5' Western Heavy.
- 1—6' Western Full Universal.

## PLANERS.

- 1—22"x22"x 8' Flather.
- 1—22"x22"x 6' American.
- 1—24"x24"x 4' Gray.
- 2—24"x24"x 5' Gray.
- 1—24"x24"x 6' Cincinnati.

- 1—24"x24"x10' Lodge & Davis.
- 1—26"x26"x 6' American.
- 1—26"x26"x 7' Gray.
- 1—26"x26"x 7' Gray, 1 head.
- 1—30"x30"x 7' Powell, 4 heads.
- 1—32"x32"x 8' Gray, 2 heads.

## GEAR CUTTERS.

- 1—Schuchardt & Schutte Spiral.
- 1—No. 12 Brown & S. Spur & Bevel.
- 1—12" Gleason Generator.
- 1—24" Fellows Shaper.
- 2—No. 3 26" Cincinnati Spur.
- 1—36" Fellows Shaper.
- 1—36" Gleason Spur & Bevel Gear Former.

*Write for Our Green List describing these and many others*

**HILL, CLARKE & CO. OF CHICAGO**

# Riverside Machinery List

**We Own Every Tool Offered**

## New Machine Tools For Immediate Shipment

18"x 8' Springfield, q.c.g. lathes. (2).  
18"x 8' Springfield standard lathes.  
16"x 8' Springfield q. c. g. lathes.  
16"x 6' Springfield q. c. g. lathes. (2).  
14"x 6' Springfield grd. hd. lathes.  
16" Springfield b. g. shapers, (3).  
20" Springfield b. g. shapers, (2).  
25" Springfield b. g. shaper.  
30"x30"x10' Wilson 2 head planer.  
14" Pierce turret lathes, (3).  
1x8 Pierce hand screw machines, (2).  
No. 1 1/2 American milling mchs. (3).

No. 20 Bliss o. b. i. press.  
No. 19 Bliss o. b. i. press.  
No. 18C Bliss o. b. i. press.  
No. 18 Bliss o. b. i. press.  
20" Buffalo b.g. p.f. drill presses, (5).  
20" C.-Otto b.g. p.f. drill presses, (3).  
20" Champ.b.g. p.f. drill presses, (2).  
20" Champion pl. drill presses, (2).  
20" Silver plain drill presses, (3).  
20" C.-Otto plain drill presses, (3).  
14" Champion pl. drill presses, (2).

## USED MACHINERY

### ENGINE LATHES

28"x10' Hamilton stand., with turret.  
22"x14' Putnam standard.  
22"x10' Reed standard.  
18"x 6' Jones & Lamson standard.  
16"x 8' Porter standard.  
16"x 8' Reed stud lathes, (2).  
14"x 8' Sebastian standard.

14"x 6' Springfield.  
14"x 6' Prentiss.  
14"x 6' Sebastian.  
14"x 6' Von Wyck, (2).  
13"x 8' Barnes, (2).  
13"x 5' Barnes.  
10"x 4' Sebastian.

### TURRET AND SCREW MACHINES

No. 6-A Potter & J. auto. (2).  
4 1/2" Gridley auto. scr. mch., motor dr.  
No. 4 Foster f.g.h. hd. scr. mchs., (2).  
No. 5 Pierson f. g. h. hd. scr. mchs.  
16" Warner & S. turret lathes, (4).

12" Warney & Swasey tur. lathes, air chucks, (4).  
2" Cleveland automatic screw machines, jigger feed, (2).  
4 1/2" Cleveland auto. screw machine.

### MILLING MACHINES AND GRINDERS

No. 2 Hendey pl. milling machine.  
No. 0 B. & S. pl. milling machine.  
No. 1 Cincinnati plain milling mch.  
No. 13 Pratt & W. Lincoln type millers, (2).  
No. 1 1/2 Knight milling and drilling machines, (5).  
Fox hand milling machines, (3).

Garvin hand miller.  
No. 2 1/2 Bath universal grinder.  
No. 12 Modern plain grinder.  
No. 1 Landis internal grinder.  
No. 2 W. & M. surface grinder.  
No. 3 W. & M. surface grinder.  
Miami Valley univ. cutter grinder.

### DRILL PRESSES

5' Mueller plain radial, old type.  
28" N.-B.-P. b. g. p. f. drill press.  
3 sp. Henry & Wright high speed.

6 spindle Fox high speed drills, (4).  
4 spindle Fox high speed drills, (2).  
16 spindle Natco drill.

### SHAPERS AND PLANERS

24" Lodge & Davis geared shaper.  
16" Hendey geared shaper.  
36"x36"x10' New Haven planer, s. h.

27"x27"x8' Cincinnati planer, s. h.  
16"x16"x5' Hendey planer, s. h.

### PRESSES AND HAMMERS

Waterbury-F. o. b. i. press, geared.  
No. 10 Perkins drawing press.  
No. 2-W Bliss wiring presses, (3).  
800 lb. B. & S. roll board hammer.

800 lb. P. & W. roll board hammer.  
150 lb. Bradley strap hammer.  
25 lb. Fairbanks belt hammer.

### AIR COMPRESSORS

14x 4 McKerney Terry, belt dr.  
10x10 Clayton, belt driven.  
9x11 Chicago Pneumatic, belt dr.  
8x 8 Fairbanks Morse, belt driven.

8x 8 Gardner, single belt driven.  
8x 8 Union Steam Pump, belt dr.  
8x 6 Westinghouse, steam.  
6x 6 Ingersoll Rand, belt driven.

**We also carry a large assortment of Steam Engines  
Steam Pumps and Electrical Equipment of all kinds.**

We are in the market to purchase machine tools, both large and small.

**Riverside Mchy. Depot, 17 St. Aubin Ave., Detroit, Mich.**

### USED PLANERS.

- 24"x24"x 6' American 1 head.
- 30"x30"x 6' Pond, 1 head.
- 36"x36"x 8' Whitcomb, 1 head.
- 36"x36"x10' Flather, 2 heads.
- 36"x36"x12' Niles, 1 head.

### PLANNER TYPE MILLING MACHINES.

- 24"x24"x 8' Bement-Miles hor. spdl.
- 24"x24"x12' Bement-Miles hor. spdl.
- 46"x26"x11' Becker-Brainard.
- Hor. spdl. arranged for motor drive.

### GREAT BIG TURRET LATHE.

- 40" swing, weighing about 22,000 lb.
- Built by American Turret Lathe Co. Hollow spdl. (34" hole), capacity for handling work 6' 9" between chuck and turret fitted up with main turret carrying five tools and supplementary turret with four tools, all the automatic feeds, in A-1 condition, having seen but little service.

### USED ENGINE LATHES.

- 48" swing, 20' bed, Putnam.
- 26" swing, 20' bed, Putnam.
- 24" swing, 15' bed, Bement.
- 20" swing, 14' bed, Hamilton.
- 18" swing, 10' bed, Porter.
- 18" swing, 8' bed, Leblond.
- 18" swing, 6' bed, Seneca Falls.
- Quick change, taper draw-in att.
- 16" swing, 6' bed, Leblond.

### USED RADIAL DRILLS.

- 3 1/2' arm, Bement-Miles.
- 3' arm, Dreses.
- 2 1/2' arm, Dreses-Simplex (2).

### HORIZONTAL CYLINDER BORING MACHINE.

- No. 2 Barrett, 5" boring bar, continuous feed, travel 48" in either direction, having capacity for boring and facing both ends of the cylinder at the same time. Bed is 12' 6" long, widened part 60"x52". Will bore, counterbore and face off both ends of 10"x18" cylinder in one hour.

### MULTIPLE SPINDLE DRILLS.

- 18 spindle speed box Baush.
- 8 spindle with C-shaft Baush.

### BIG SLOTTING AND KEY-SEATING MACHINE.

- 30" stroke Baker Bros. combination draw-stroke, slotter and keyseater, with actual stroke of 33". Table 36" diam. with 12" hole. Automatic feeds in all directions. Can be used for keyseating wheel centers up to 72" diam. Bar carrying

cutting tool can be any shape or size up to and including 4 1/2" diam. This machine is adapted to do a great variety of work for slotting in forgings or castings having a great amount of metal to remove or any long deep holes where the regular slotter cannot reach.

### MISCELLANEOUS TOOLS.

- 30" swing, Brown & Sharpe turret head boring mill.
- 2x24 Jones & Lamson flat turret.
- 20" swing Potter & Johnston automatic turret lathe.
- 21" swing Gisholt gap style 30" in gap.
- 12" stroke traveling head shaper, "Sellers."
- 20" and 24" crank shapers, back geared, Gould & Eberhardt.
- 14" stroke slotting machine, Putnam.
- 26" gear shaper, "Fellows."
- No. 2 Baker Keyseater, capacity 2" wide, 18" long.
- 6" Espen & Lucas cold saw.
- 10" double end cutting off and centering machine, Bement-Miles.
- 20" Lincoln type milling machine. Boring bar 4 1/2" diam., 8' 6" long, with sliding head and inserted screw for feeding.

### HAMMERS.

- Steam—2500 lb. single frame Bement-Miles, cylinder 12"x50".
- Drop—900 lb., belt lifter, Williams-White.

### NEW LATHES.

McCabe heavy duty latest pattern 3 step cone, double back gears, quick change gear mechanism. Absolutely new, nothing better built in point of workmanship, power, and convenience in handling and installed with that understanding.

- 16" swing to 28" swing.
- 6' to 16' beds or any other lengths if desired.
- 26-48"x12', 16' and 22' beds "McCabe" double spindle, triple-gear.
- All these Lathes are in stock right now.

### NEW SHAPERS.

- 12" to 32" stroke, plain and back-gear, crank, with "Speed box."

### LATEST PATTERN.

### NEW RADIAL DRILLS.

- 2 1/2', 3 1/2' and 4' arms, with speed box, single pulley drive and tapping attachment.

**J. J. McCabe, 149 Broadway, New York**

New Boston Show Rooms  
**W. H. J. Fitzgerald & Co.**

30 Oliver St., Boston

---

**FOR SALE**

**Six ¼ Inch Automatic Screw Machines**  
(Stehli Patent)

Each fitted with screw slotting attachment.

Manufactured by Hartford Machine Screw Company.

These machines adapted to the rapid production of all kinds of small screws, bushings, studs, etc. Condition: good as new.

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**Brown & Sharpe No. 2 (12x30) Universal Grinder**

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**Two No. 56, 2¼" National Acme  
Multiple Spindle Automatic Screw Machines**  
Single Belt drive complete. Used less than six months. Large assortment extra attachments and parts.

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Machine Tool Users will find the largest selection of new tools of reliable makes between Boston and New York, as well as a careful selection of good used machines, on our floors at

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With our central location we can give you a quicker service and a quality of personal attention that you cannot secure by going farther away. Our customers find it so, and we believe you will too. Remember the name—

**Purinton & Smith**

# **Low Prices to save cost of removing Biggest and Best Stock of Used Machine Tools Available**

## **Planers—**

- 40"x40"x14' New Haven, single head.
- 40"x40"x8' New Haven, single head.
- 30"x30"x12' Cincinnati. 2 heads on rail.
- Two (2) 30"x30"x10' Pease, single head.
- 30"x30"x8' Pond, single head.
- 24"x24"x6' Powell, single head.

## **Power Presses—**

- No. 92-A Toledo, double crank.
- No. 92-B Toledo, double crank.
- No. 35 Arch Press, practically new.
- No. 81 Ferracute, double crank.
- No. 3 Perkins, double action Toggle Press.
- 150 ton Ferracute Knuckle Joint.
- 75 ton Ferracute Knuckle Joint.

## **Power Hammers—**

- 800 lb. Lane, double frame, steam.
- 500 lb. Bell, single frame, steam.
- 500 lb. Bradley Upright.
- No. 4 Nazel Pneumatic with motor.
- 300 lb. McDougal & Potter.
- Two (2) 200 lb. Beaudry upright.
- Two (2) 200 lb. Bradley upright.

## **Milling Machines—**

- No. 5 Brown & Sharpe vertical.
- No. 24 Garvin universal, dividing heads, etc.
- No. 2 Putnam universal, dividing heads, etc.
- No. 14 Cincinnati universal, dividing heads, etc.
- No. 2 Cincinnati, plain.

## **Slab Millers—**

- 36"x36"x8' Ingersoll, two vertical spindles.
- 24"x6' Beaman & Smith, open side, vertical spindle.
- Newton Slab Miller, table 24"x48", 38" between housings.

## **Gear Cutters—**

- 36" Fellows Gear Shaper.
- 30" Flather Automatic.
- 24" Brown & Sharpe Automatic.

## **Grinders—**

- No. 54 Bath Duplex.
- No. 3 Bath Universal.
- No. 2 Bath Universal.
- No. 2 Brown & Sharpe Universal.
- Two (2) No. 24 Bath Duplex Internal Grinders.

## **Radial Drills—**

- 66" American Tool Wks. Universal, tapping attachment.
- 60" Hamilton, plain.
- 60" Pond Ridgeway with motor.
- 60" Drees Universal with motor.
- 4' Cincinnati Bickford, tapping attachment.
- 36" Drees, plain.
- 36" Prentice.

**We stock every Kind—Make—Size and Description of Machine  
Tools and Metal Working Machinery.**

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## For Immediate Delivery

One 12x36 Cincinnati Plain Grinder complete with two work rests, one wheel and Valve Seat Grinding attachment and self contained counter.

One 16x60 Landis Plain Grinder complete with valve seat grinding attachment and crank grinding attachment.

One 3x36 Jones & Lamson all geared head Turret Lathe with full bar equipment.

One No. 2 Warner & Swasey Hollow Hexagon Turret Lathe.

One No. 2A Warner & Swasey Hollow Hexagon Turret Lathe.

One No. 5 Becker-Brainard Vertical Milling Machine.

One No. 1½ Kearney & Trecker Vertical Milling Machines with standard equipment.

One No. 5 American Can Plain Fly Wheel Presses.

One 20-in. Foote-Burt Heavy Duty Drill Press.

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8"x18" Modern self-contained Plain Grinder.

No. 2 Surface Grinder.

No. 2 Hendey Universal Milling Machine.

No. 1 Kempsmith Plain Milling Machine.

No. 3-H Becker Vertical Milling Machine.

**Lynd-Farquhar Company**  
Boston, Mass.



# Eastern Machinery & Equipment Co.

319 Commercial Trust Bldg., Philadelphia, Pa.

## NEW TOOLS

- 1—100" Betts vertical Boring Mill, motor drive, latest pattern.
- 1—Becker vertical Milling Machine, 6-62" with rotary table.
- 2—No. 3 Hendey universal milling machines.
- 3—20" Standard Ohio shapers.
- 2—24" High duty shapers.
- 1—2"x2½" William Sellers Tool Grinder.
- 10—18"x10' High duty engine lathes.
- 10—25"x10' High duty engine lathes.
- 4—36"x25' Wickes Lathes, quick change gear, dbl. bk. gr., hollow spdl.
- 2—26"x14' Wickes Lathes, quick change gear, dbl. bk. gr., hollow spdl.
- 1—32"x12' Pittsburgh Engine Lathes, quick change gear, double back gear, hollow spindle.
- 10—32"x14' Pittsburgh Engine Lathes, dbl. back gear, hollow spindle.

## USED MACHINERY

### TURRET LATHES.

- 36—Potter & Johnston 6-A automatic.
- 20—18"x6' Warner & Swasey, geared friction head.
- 2—2¼"x24" Jones & Lamson flat turret, bar and turret equipment.
- 6—25" Gisholt chucking, 6½" hole spindle, square turret.
- 12—24" English pattern, high duty type.
- 5—24" Gisholt, 2-step cone, 6¼" hollow spindle.

### BORING MILLS.

- 1—Binnie horizontal, 3" bar, 60" traverse.
- 3—66" Bement tire boring and turning.
- 1—37" Bauha vertical, 2 swivel heads.
- 1—96"x10' long cylinder.

### PLANERS.

- 1—48"x12' Pedrick & Ayer, open side, shaper type.
- 1—40"x36"x12' Hamilton, 2 heads.

### MILLING MACHINES.

- 2—No. 3 Cincinnati universal, full equipment.
- 1—No. 2 Beaman & Smith slab, 2 vertical spindles.

### SCREW CUTTING MACHINES.

- 1—No. 54 National Acme 4 spindle.
- 2—2¾" Cleveland automatic model A.
- 1—1¼" Cleveland automatic model A.
- 1—¾" Cleveland automatic model A.

### DRILL PRESSES.

- 1—4' Prentice radial drill, tapping attachment.
- 1—2' 6" Foadick radial drill, tapping attachment.
- 2—D1 Colburn heavy duty drill presses, geared speed box, single pulley drive, latest pattern.
- 2—D-3 Colburn heavy duty drill presses, tapping attachment, geared speed box, single pulley drive.

### MISCELLANEOUS.

- 5—Cutting-off and centering machines, Bement axle, 12" dia. capacity.
- 2—Axle turning lathes, Bement, motor drive.
- 8—Cutting-off machines, 7" Williamson.
- 6—Cutting-off machines, 10" Williamson.
- 3—Friction saws, Joseph T. Ryerson, motor drive, 45" dia. saw.

## Write To Baird For Quick Delivery On Good Tools

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- 1—6"x18" Landis Plain Grinder.
- 1—No. 75 Heald Internal Grinder.
- 1—3¼"x40" Greenlee Flat Turret Lathe.
- 1—36" Gisholt Vertical Boring Mill.
- 1—No. 5 Fox 16 Spindle Drill.
- 3—No. 3 Wilmarth & Morman Surface Grinders.
- 3—No. 2 Wilmarth & Morman Surface Grinders.
- 4—No. 1 Wilmarth & Morman Universal Grinders.
- 1—31"x31"x8' Whitcomb Planer.

*Prices and Description cheerfully  
given upon request.*

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**W. J. Baird Machinery Co.**  
54-56 Jefferson Ave.,      Detroit, Mich.

# **Wanted— Used Machinery**

## **Especially**

**Large Planers, 3 and 4 Heads.**

**Boring Mills, Vertical or Horizontal.**

**Punch Presses, Single or Double End.**

**Boiler Rolls—Straightening Rolls.**

**Electric Traveling Cranes.**

**Milling Machines —Vertical and Horizontal.**

**Now is the time to cash that large machine that can be spared.**

*Give us full particulars in first letter*

**D. M. Osborne Machinery Co.**

**917 American Trust Bldg.**

**CLEVELAND, O.**

## LATHES

20"x10' Single Step, D. B. G. Lodge & Shipley Engine Lathe.  
16"x8' Lodge & Shipley Plain Stud Lathe.

### OTHER MACHINES

24" Cincinnati upright drill with tapping attachment.  
36" Safety Wet Tool Grinder.  
36" Safety Wet Tool Grinder.  
No. 1 Diamond Bench Grinder on Pedestal.  
Dry Grinder for two 12" Wheels.  
Heald Style "C" Drill Grinder.  
Two 24" Rockford Wet Tool Grinders.  
Globe Tool Sharpener.  
Two U. S. Portable Electric Grinders, 110 volt, 2 H. P.  
U. S. Portable Electric Grinder, 110 volt,  $\frac{1}{2}$  H. P.  
Universal Swivel Table for Radial Drill.  
15 H. P. Gas Engine, 215 R. P. M.  
Triplex Single Acting Vertical Deane Pump,  $4\frac{1}{2}$ " bore,  $3\frac{1}{2}$ " stroke.  
3" Hurlbut-Rogers Cutting-off machine.  
Two Brown & Sharpe No. 3-26" Automatic Gear Cutters.  
Ingle Automatic Gear Tooth Chamfering Machine.  
Lodge & Shipley Drill Tip Grinder.  
Landis 10"x30" Plain Grinder with Universal Headstock.  
Peerless Belt Lacer.

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1 $\frac{1}{2}$  H. P. Bullock, 220 volt, D. C., 600 R. P. M.  
10 H. P. Triumph, 220 volt, D. C., 200-800 R. P. M.  
Two 85 H. P., G. E. 220 volt D. C., 750 R. P. M.

**The Lodge & Shipley Mch. Tool Co.,** Cincinnati, Ohio,  
U. S. A.

One 2"x26" Pratt & Whitney Turret Lathe, with wire feed, back geared, friction head.  
Two Pratt & Whitney Plain Cylindrical Grinders, capacity 6"x48", in excellent condition.  
One Springfield Machine Tool Co. Cylindrical Grinder, cap. 12"x96".  
One Brown & Sharpe Universal Grinder, capacity 12"x40".  
One No. 3 Brown & Sharpe Universal Grinder.  
One 8"x18" Modern Plain Grinder, new.  
Two 6"x20" Modern Plain Grinders.  
One Diamond Machine Co. Roll Grinder, capacity 8"x26".  
One No. 5 Becker Vertical Milling Machine, with power rotary att.  
One No. 3 Cincinnati Plain Milling Machine.  
One 36" Bickford Radial Drill, with tapping attachment.  
One 26"x7' Niles Planer, parallel drive, one head.  
One Wheeler Planer, 24"x24"x6', in excellent condition, one head.  
One Whitcomb Crank Planer, used less than two years, in excellent condition.  
One 24"x6' Whitcomb Planer, one head, new.  
One Flather Gear Cutter, for spur gears only, capacity 8"x26".  
One No. 14 Whiton Gear Cutter.

We also carry a large line of Shapers, Turret Lathes, Hand Screw Machines, Engine Lathes, Upright Drills, etc.

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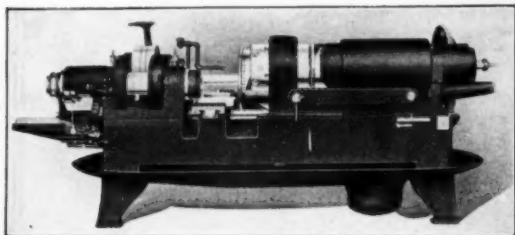
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4¼" Model "A"

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As Good As New and  
Ready to Ship



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*The Machinery Merchants*

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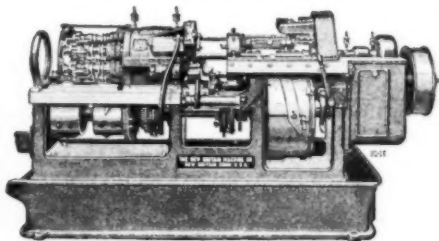
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New Britain Machine  
Company**

**New Britain, Conn., U.S.A.**





